

64

SEARCH REQUEST FORM

Access DB# 16325

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 8-11-2
Art Unit: 1752 Phone Number 302-1333 Serial Number: 10/674,76
Mail Box and Bldg/Room Location: 9D60 Results Format Preferred (circle): PAPER, DISK E-
(Rem.)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Alc Btb. Plz. SCIENTIFIC REFERENCE BR
Inventors (please provide full names): Sci & Tech Int - Cn

Earliest Priority Filing Date: Aug 2, 1985 Pat. & T.M. Office

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

— Please search for a silicon polymer

of cl. #2

cl #1 and.

~~cl #1~~

of the polymer

(one specific example is shown

on pg. 16 of spec.)



But a Plz. do not
limit to that.

STAFF USE ONLY

Searcher: 1424
Searcher Phone #: _____
Searcher Location: _____
Date Searcher Picked Up: 9/9/05
Date Completed: 9/9/05
Searcher Prep & Review Time: 50
Clerical Prep Time: 30
Online Time: 70

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) 2
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

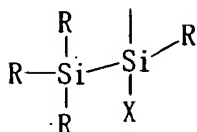
Vendors and cost where applicable

STN 8 47.3 .38
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

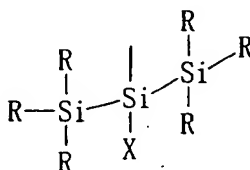
CLAIMS

What is claimed is:

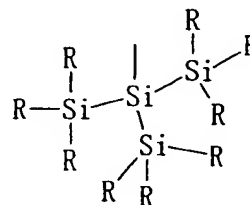
1. A composition suitable (for formation of a spin-on antireflective layer) comprising
 - ① a silicon polymer having a plurality of reactive sites distributed along the polymer for reaction with a crosslinking component, and chromophore moieties; and
 - ② a crosslinking component, wherein said silicon polymer comprises $\text{Si}-(\text{Si})_n$ moieties in the back bone or in the side group, wherein n is an integer of 1-15 and the $\text{Si}-(\text{Si})_n$ moieties represent linear, branched or cyclic silanes, or any combination thereof.
2. The composition of claim 1, wherein said $\text{Si}-(\text{Si})_n$ moieties in the side group comprise formula I, II or III.



Formula I



Formula II



Formula III

wherein, R is each independently selected from an organic moiety, a halogen or a silane, and X is each independently selected from an organic moiety or a halogen, said organic moiety is substituted or unsubstituted hydrocarbon comprising linear or branched alkyl, aryl, halogenated linear or branched alkyl, halogenated aryl, cyclic alkyl, halogenated cyclic alkyl, or any combination thereof.

3. The composition of claim 1, further comprising an acid generator.

4. The composition of claim 3, wherein the acid generator is a thermal acid generator.
5. The composition of claim 3, wherein the acid generator is a photoacid generator.
6. The composition of claim 1, wherein said reactive sites are selected from the group consisting of alcohols, amino groups, imino groups, carboxylic acids, vinyl ethers, epoxides and mixtures thereof.
7. The composition of claim 1, wherein said chromophore moieties contain unsaturated carbon-carbon bonds.
8. The composition of claim 1, wherein said chromophore moieties contain linear alkyl, branched alkyl or cycloalkyl.
9. The composition of claim 1, wherein said crosslinking compound comprises a glycoluril compound.
10. The composition of claim 3, wherein said acid generator is a thermally activated acid generator.
11. The composition of claim 2, wherein said $\text{Si}(\text{Si})_n$ moieties is $-\text{Si}(\text{Si}(\text{CH}_3)_3)_3$.
12. The composition of claim 1, wherein said reactive site is an alcohol group.
13. The composition of claim 1, wherein said chromophore is phenyl group.
14. A method of forming a patterned material feature on a substrate, the method comprising:

providing a material layer on a substrate,
forming a organic underlayer over the material layer and then an
antireflective/hardmask layer over the organic underlayer, said antireflective/hardmask
comprising a polymer according to claim 1,
forming a radiation-sensitive imaging layer over the antireflective/hardmask
layer, and patternwise exposing the imaging layer to radiation thereby creating a pattern
of radiation-exposed regions in the imaging layer,
selectively removing portions of the imaging layer, the antireflective layer and
the underlayer to expose portions of the material layer, and
etching, electroplating, metal depositing or ion implanting the exposed portions
of the material layer, thereby forming the patterned material feature.

15. The method of claim 14, wherein said antireflective/hardmask layer further
comprising an acid generator.

16. The method of claim 14, wherein said polymer includes a plurality of reactive
sites distributed along the polymer for reaction with a crosslinking component, and
chromophore moieties, and a crosslinking component.

17. The method of claim 16, wherein said reactive sites are selected from the group
consisting of alcohols, amino groups, imino groups, carboxylic acids, vinyl ethers,
epoxides and mixtures thereof.

18. The method of claim 16, wherein said chromophore moieties contain unsaturated
carbon-carbon bonds.

19. The composition of claim 16, wherein said chromophore moieties contain linear
alkyl, branched alkyl or cycloalkyl.

20. The method of claim 15, wherein said acid generator is a thermally activated acid generator.
21. The method of claim 15, wherein said acid generator is a photoacid generator.
22. A method of forming a patterned material feature on a substrate, the method comprising:
- providing a material layer on a substrate,
 - forming an antireflective/hardmask layer over the metal layer, said antireflective/hardmask comprising a polymer according to claim 1,
 - forming a radiation-sensitive imaging layer over the antireflective/hardmask layer, and patternwise exposing the imaging layer to radiation thereby creating a pattern of radiation-exposed regions in the imaging layer,
 - selectively removing portions of the imaging layer, and
 - etching, electroplating, metal depositing or ion implanting the exposed portions of the material layer, thereby forming the patterned material feature.
23. The method of claim 22, wherein said antireflective/hardmask layer further comprising an acid generator.
24. The method of claim 22, wherein said polymer includes a plurality of reactive sites distributed along the polymer for reaction with a crosslinking component, and chromophore moieties, and a crosslinking component.
25. The method of claim 24, wherein said reactive sites are selected from the group consisting of alcohols, amino groups, imino groups, carboxylic acids, vinyl ethers, epoxides and mixtures thereof
26. The method of claim 24, wherein said chromophore moieties contain unsaturated

carbon-carbon bonds.

27. The composition of claim 24, wherein said chromophore moieties contain linear alkyl, branched alkyl or cycloalkyl.

28. The method of claim 24, wherein said acid generator is a thermally activated acid generator.

29. The method of claim 24, wherein said acid generator is a photoacid generator.

An embodiment of the invention also encompasses methods of making lithographic structures. The embodiment also includes a deposition process wherein various layers are formed atop each other.

16

=> fil reg

FILE 'REGISTRY' ENTERED AT 17:13:01 ON 09 SEP 2005

=> d his

FILE 'HCAPLUS' ENTERED AT 15:44:47 ON 09 SEP 2005

L1 1 S US20050074689/PN
SEL RN

FILE 'REGISTRY' ENTERED AT 15:45:10 ON 09 SEP 2005

L2 5 S E1-E5

FILE 'LREGISTRY' ENTERED AT 15:48:54 ON 09 SEP 2005

L3 STR

FILE 'REGISTRY' ENTERED AT 15:51:56 ON 09 SEP 2005

L4 SCR 2043

L5 50 S L3 AND L4

L6 STR L3

L7 50 S L6 AND L4

L8 STR L6

L9 50 S L8 AND L4

FILE 'STNGUIDE' ENTERED AT 16:17:03 ON 09 SEP 2005

FILE 'REGISTRY' ENTERED AT 16:21:32 ON 09 SEP 2005

L10 1669 S L8 AND L4 FUL

SAV L10 LEE782/A

L11 STR

L12 22 S L11 SAM SUB=L10

L13 458 S L11 FUL SUB=L10

L14 1211 S L10 NOT L13

SAV L14 LEE782A/A

FILE 'HCAPLUS' ENTERED AT 16:26:35 ON 09 SEP 2005

L15 725 S L14

L16 45 S L15(L) COMPOSITION?

L17 1 S L16 AND L1

FILE 'REGISTRY' ENTERED AT 17:13:01 ON 09 SEP 2005

=> d que l16

L4 SCR 2043

L8 STR

5 7

A A

2 2

A X Si X Si X A

1 X 3 4

A

6

NODE ATTRIBUTES:

NSPEC	IS RC	AT	1
NSPEC	IS RC	AT	2
NSPEC	IS RC	AT	3
NSPEC	IS RC	AT	4
NSPEC	IS RC	AT	5
NSPEC	IS RC	AT	6

NSPEC IS RC AT 7
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE
L10 1669 SEA FILE=REGISTRY SSS FUL L8 AND L4
L11 STR

O~~X~~Si~~X~~Si
1 2 3

NODE ATTRIBUTES:
NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 3
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE
L13 458 SEA FILE=REGISTRY SUB=L10 SSS FUL L11
L14 1211 SEA FILE=REGISTRY ABB=ON PLU=ON L10 NOT L13
L15 725 SEA FILE=HCAPLUS ABB=ON PLU=ON L14
L16 45 SEA FILE=HCAPLUS ABB=ON PLU=ON L15 (L) COMPOSITION?

=> fil hcap
FILE 'HCAPLUS' ENTERED AT 17:13:18 ON 09 SEP 2005

=> d l16 1-45 ibib abs hitstr hitind

L16 ANSWER 1 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:303259 HCAPLUS
DOCUMENT NUMBER: 142:382179
TITLE: Silicon-containing compositions for spin-on
ARC/hard mask materials
INVENTOR(S): Angelopoulos, Marie; Huang, Wu-Song;
Mahorowila, Arpan P.; Moreau, Wayne; Pfeiffer,
Dirk; Scooriyakumaren, Ratnam
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005074689	A1	20050407	US 2003-679782	

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*present
app.*

2003
1006

JP 2005115380

A2

20050428

JP 2004-291846

2004
1004

PRIORITY APPLN. INFO.:

US 2003-679782

A

2003
1006

AB Antireflective compns. characterized by the presence of an Si-containing polymer having pendant chromophore moieties are useful antireflective coating/hard mask compns. in lithog. processes. These compns. provide outstanding optical, mech. and etch selectivity properties while being applicable using spin-on application techniques. The compns. are especially useful in lithog. processes used to configure underlying material layers on a substrate, especially metal or semiconductor layers.

IT 849346-62-9P

(preparation of silicon-containing compns. for spin-on ARC/hardmask materials)

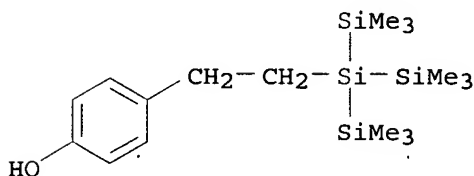
RN 849346-62-9 HCAPLUS

CN Formaldehyde, polymer with 4-[2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl]phenol (9CI) (CA INDEX NAME)

CM 1

CRN 849346-60-7

CMF C17 H36 O Si4



CM 2

CRN 50-00-0

CMF C H2 O

 $\text{H}_2\text{C}=\text{O}$

IC ICM G03F007-00

INCL 430270100; 430322000; 430323000; 430324000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38

IT 849346-62-9P

(preparation of silicon-containing compns. for spin-on ARC/hardmask materials)

L16 ANSWER 2 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:675002 HCAPLUS

DOCUMENT NUMBER: 141:210048

TITLE: Solar array with plastic film substrate
 INVENTOR(S): Sakai, Tatsuya; Sawada, Katsutoshi; Okita, Kenzo; Oshima, Noboru
 PATENT ASSIGNEE(S): JSR Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 55 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004235539	A2	20040819	JP 2003-24133	2003 0131
PRIORITY APPLN. INFO.:			JP 2003-24133	2003 0131

OTHER SOURCE(S): MARPAT 141:210048

AB The disclosed solar array is characterized in that plastic film breaking elongation 6-10% and breakdown strength of 40-50 MPa is used as the substrate and ≥ 1 of the semiconductor layers are made from a composition containing Si particles, higher order silane, and a hydrogenated silane. The substrate is preferably prepared from copolymers of polycyclic olefins with specified structures. The solar arrays have good flexibility, durability, and thermal stability.

IT 61596-90-5P, Decaphenylcyclopentasilane homopolymer
 (coating composition for solar array semiconductor layer film formation)

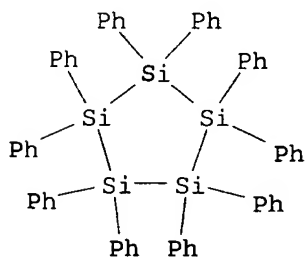
RN 61596-90-5 HCAPLUS

CN Cyclopentasilane, decaphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1770-54-3

CMF C60 H50 Si5



IC ICM H01L031-04

ICS C08F008-04; C08F232-08

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38

IT 1770-54-3P, Decaphenylcyclopentasilane 61596-90-5P,
 Decaphenylcyclopentasilane homopolymer
 (coating composition for solar array semiconductor layer)

film formation)

L16 ANSWER 3 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:293281 HCAPLUS
 DOCUMENT NUMBER: 140:329540
 TITLE: Polymerizable silicon-containing compound for
 polymer resist composition and patterning
 process
 INVENTOR(S): Kinsho, Takeshi; Watanabe, Takeru; Hasegawa,
 Koji
 PATENT ASSIGNEE(S): Japan
 SOURCE: U.S. Pat. Appl. Publ., 22 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004067436	A1	20040408	US 2003-671732	2003 0929
JP 2004115762	A2	20040415	JP 2002-285171	2002 0930
PRIORITY APPLN. INFO.:			JP 2002-285171	A 2002 0930

OTHER SOURCE(S): MARPAT 140:329540

AB Polymerizable silicon-containing compds. of formula:
 $(\text{CH}_3)_3\text{SiCH}_2\text{C}(\text{=CH}_2)\text{C}(\text{=O})\text{OR}_1$ (R_1 = hydrogen, halogen or monovalent
 organic group) are polymerized into polymers. A resist composition comprising
 the polymer as a base resin is sensitive to high-energy radiation,
 has excellent sensitivity and resolution at a wavelength of less than
 300 nm, and high resistance to oxygen plasma etching, and thus
 lends itself to micropatterning for the fabrication of VLSIs.

IT 677775-98-3P

(polymerizable silicon-containing compound for polymer resist
 composition and patterning process)

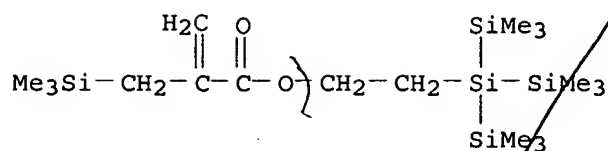
RN 677775-98-3 HCAPLUS

CN 2-Propenoic acid, 2-[(trimethylsilyl)methyl]-, 1-ethylcyclopentyl
 ester, polymer with tetrahydro-2-oxo-3-furanyl
 2-[(trimethylsilyl)methyl]-2-propenoate and 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl 2-[(trimethylsilyl)methyl]-2-
 propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 677775-96-1

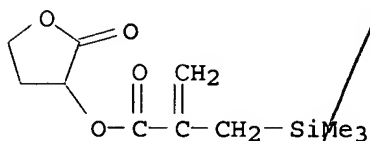
CMF C18 H44 O2 Si5



CM 2

CRN 677775-93-8

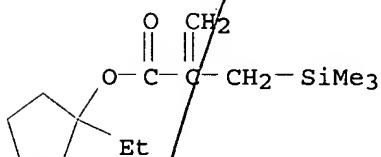
CMF C11 H18 O4 Si



CM 3

CRN 677775-92-7

CMF C14 H26 O2 Si



IC ICM G03C001-73

ICS G03F007-039; G03F007-20; G03F007-30; G03F007-38; G03F007-36

INCL 430270100; 430905000; 430907000; 430910000; 430326000; 430914000;
430327000; 430328000; 430331000; 430313000CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)IT 677775-97-2P 677775-98-3P 677775-99-4P 677776-00-0P
(polymerizable silicon-containing compound for polymer resist
composition and patterning process)

L16 ANSWER 4 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:979493 HCAPLUS

DOCUMENT NUMBER: 140:218814

TITLE: Tailoring of the morphology and chemical
composition of thin organosilane microwave
plasma polymer layers on metal substrates
AUTHOR(S): Grundmeier, G.; Thiemann, P.; Carpentier, J.;
Shirtcliffe, N.; Stratmann, M.CORPORATE SOURCE: Max-Planck-Institut fuer Eisenforschung,
Duesseldorf, 40237, Germany

SOURCE: Thin Solid Films (2004), 446(1), 61-71

CODEN: THSFAP; ISSN: 0040-6090

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The growth of thin microwave organosilicon plasma polymers on model zinc surfaces was investigated as a function of the film thickness and the oxygen partial pressure during film deposition. The evolution of the topol. of the film was studied by atomic force microscopy (AFM). The nano- and micro-roughness was investigated at the inner and the outer surfaces of the plasma polymers. A special etching procedure was developed to reveal the underside of the plasma polymer and thereby its inner surface. Rough films contained voids at the interface, which reduced the polymer/metal contact area. The increase in oxygen partial pressure led to a smoother film growth with a perfect imitation of the substrate topog. at the interface. The chemical structure of the films was determined by IR reflection absorption spectroscopy (IRRAS), XPS and time-of-flight secondary ion mass spectroscopy (ToF-SIMS). ToF-SIMS at the outer and the inner surface of the plasma polymers showed that the d. of methylsilyl groups increases in the outer surface layer of the plasma polymer and depends on the oxygen partial pressure. The chemical composition of the films could be altered to pure SiO₂ without changing the morphol. by using oxygen-plasma post-treatment. This was proved by means of IRRAS and AFM. Chemical and topol. of the films were correlated with the apparent water contact angle. It was found that a linear relationship exists between the nanoscopic roughness of the plasma polymer and the static contact angle of water. Superposition of a nanoscopic roughness of the metal surface and the nanoscopic roughness of methylsilyl-rich films led to ultra-hydrophobic films with water contact angles up to 160°.

IT 61469-35-0, Hexamethyldisilane homopolymer
 (control morphol. and chemical composition of thin
 plasma-prepared organosilane polymer films on zinc substrates)

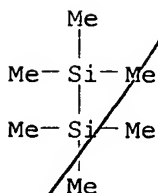
RN 61469-35-0 HCAPLUS

CN Disilane, hexamethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1450-14-2

CMF C6 H18 Si2



CC 38-3 (Plastics Fabrication and Uses)

IT 61469-35-0, Hexamethyldisilane homopolymer
 (control morphol. and chemical composition of thin
 plasma-prepared organosilane polymer films on zinc substrates)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L16 ANSWER 5 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:950586 HCAPLUS

DOCUMENT NUMBER: 140:21273
TITLE: Resist composition and patterning process
INVENTOR(S): Hatakeyama, Jun; Kurihara, Hideshi; Takeda, Takanobu; Watanabe, Osamu
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 32 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003224291	A1	20031204	US 2003-427939	2003 0502
JP 2004027210	A2	20040129	JP 2003-124633	2003 0430
PRIORITY APPLN. INFO.:			JP 2002-130326	A 2002 0502

AB Chemical amplified pos. photoresist compns. comprises a polymer obtained by copolyng. a silicon-containing monomer with a polar monomer having a value of LogP or c-LogP of up to 0.6 and optionally hydroxystyrene, a photoacid generator and an organic solvent are sensitive to high-energy radiation and have a high sensitivity and resolution at a wavelength of less than 300 nm and improved resistance to oxygen plasma etching.

IT 630417-20-8P 630417-24-2P

(photoresist composition for patterning process)

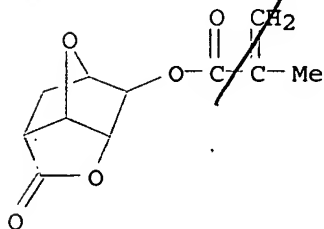
RN 630417-20-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl ester, polymer with 4-ethenylphenol and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1.

CRN 274248-05-4

CMF C11 H12 O5

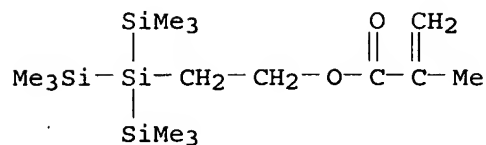


CM 2

CRN 211369-53-8

no crosslinking component

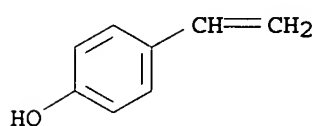
CMF C15 H36 O2 Si4



CM 3

CRN 2628-17-3

CMF C8 H8 O



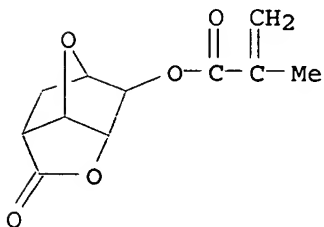
RN 630417-24-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with 4-ethenylphenol, hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 274248-05-4

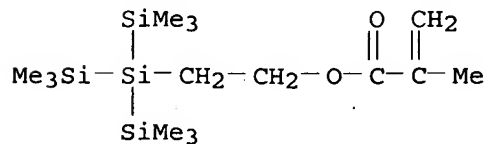
CMF C11 H12 O5



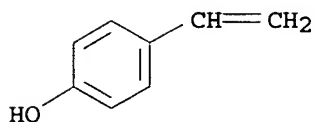
CM 2

CRN 211369-53-8

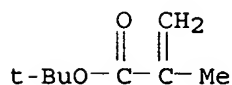
CMF C15 H36 O2 Si4



CM 3

CRN 2628-17-3
CMF C8 H8 O

CM 4

CRN 585-07-9
CMF C8 H14 O2

IC ICM G03F007-038
ICS G03F007-38; G03F007-40
INCL 430270100; 430330000; 430311000; 430313000
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 35, 38
IT 630417-20-8P 630417-22-0P 630417-24-2P
630417-26-4P
(photoresist composition for patterning process)

L16 ANSWER 6 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:568830 HCAPLUS
DOCUMENT NUMBER: 139:125125
TITLE: Far-UV-sensitive positive-working resist
compositions containing phenacylsulfonium
salts as photoacid generators
INVENTOR(S): Uenishi, Kazuya; Kodama, Kunihiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003207896	A2	20030725	JP 2002-7635	2002 0116
US 2003170562	A1	20030911	US 2003-341406	2003 0114
US 6803173	B2	20041012		

PRIORITY APPLN. INFO.:

JP 2002-7635

A

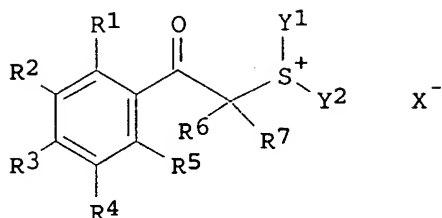
2002

0116

OTHER SOURCE(S):

MARPAT 139:125125

GI



I

AB The resist compns., which are sensitive to ArF or KrF far-UV laser and show good dimension uniformity of contact hole pattern in $\leq 0.2 \mu\text{m}$ fine patterning, contain (a) polymers having Si atom in the side chain, which are insol. or slightly-soluble in an aqueous alkaline solution and become alkali-soluble upon action of acids and

(b)

photoacid generators phenacylsulfonium salts I [R1-R5 = H, NO₂, (un)substituted alkyl, alkoxy, alkyloxycarbonyl, aryl, acylamino; at least 2 of R1-R5 may be bonded together to form a ring; R6, R7 = H, cyano, (un)substituted alkyl, aryl; Y1, Y2 = alkyl which may have substituent, ether bond, sulfide bond, (un)substituted alkenyl; if both Y1 and Y2 = alkyl, then Y1 and/or Y2 = alkyl having OH, ether bond, sulfide bond, or total C number of both groups is ≥ 2 ; ≥ 1 of R1-R5 may be joined with Y1 and/or Y2 or R6 and/or R7 to form a ring; X = nonnucleophilic anion], wherein ≥ 2 I-derived units are self-bonded via a linking group at any position of R1-R7, Y1, and Y2.

IT 343605-02-7P

(far-UV-sensitive pos.-working resist compns. containing phenacylsulfonium salts as photoacid generators for good dimension uniformity of contact hole pattern)

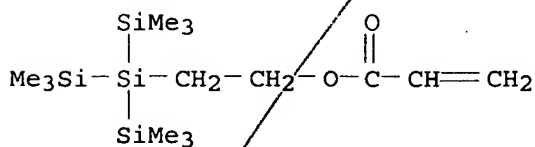
RN 343605-02-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

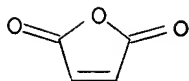
CRN 335385-69-8

CMF C14 H34 O2 Si4



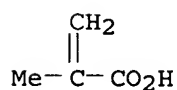
CM 2

CRN 108-31-6
CMF C4 H2 O3



CM 3

CRN 79-41-4
CMF C4 H6 O2



IC ICM G03F007-039
ICS C08F030-08; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
IT 343605-02-7P

(far-UV-sensitive pos.-working resist **compns.** containing
phenacylsulfonium salts as photoacid generators for good
dimension uniformity of contact hole pattern)

L16 ANSWER 7 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:200568 HCAPLUS

DOCUMENT NUMBER: 138:245600

TITLE: Positive-working resist composition from
polymer having silicon in the sidechain

INVENTOR(S): Uenishi, Kazuya

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003076023	A2	20030314	JP 2001-267429	

2001
0904

PRIORITY APPLN. INFO.: JP 2001-267429

2001
0904

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT

AB The pos.-working resist composition comprises (a) a polymer which has Si in the sidechain and is insol. or hardly soluble in an alkaline solution but becomes soluble in an aqueous alkaline solution upon the interaction with

an

acid and (b) a photoacid, wherein the component (a) is made up of a repeating unit such as I (R2 = H, Me; R3 = alkylene, phenylene) having the Si-containing sidechain represented by II (R1 = alkyl, alkoxy, aryl, etc.). The use of the component (a) provided excellent resist characteristics for far-UV exposure in semiconductor device fabrications.

IT 501660-87-3P

(pos.-working resist composition from polymer having silicon in sidechain)

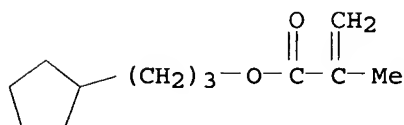
RN 501660-87-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-cyclopentylpropyl ester, polymer with 1,1-dimethylethyl 2-propenoate, 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 501646-00-0

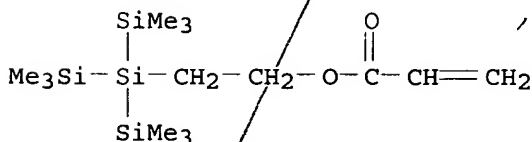
CMF C12 H20 O2



CM 2

CRN 335385-69-8

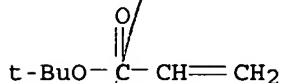
CMF C14 H34 O2 Si4



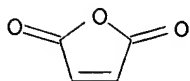
CM 3

CRN 1663-39-4

CMF C7 H12 O2



CM 4

CRN 108-31-6
CMF C4 H2 O3

IC ICM G03F007-039
ICS C08F230-08; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76
IT 501660-73-7P **501660-87-3P**
(pos.-working resist **composition** from polymer having silicon in sidechain)

L16 ANSWER 8 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:76856 HCAPLUS

DOCUMENT NUMBER: 138:123350

TITLE: Transparent fire-resistant branched polysiloxane-polycarbonate block copolymer compositions and their manufacture

INVENTOR(S): Mahood, James Alan; Rosenquist, Niles Richard; Singh, Rajendra Kashinath

PATENT ASSIGNEE(S): General Electric Company, USA

SOURCE: PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003008501	A1	20030130	WO 2002-US20446	2002 0626

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003027905	A1	20030206	US 2001-908168	2001 0718
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US 6660787 B2 20031209

EP 1412430 A1 20040428 EP 2002-744697

2002
0626

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
JP 2004536193 T2 20041202 JP 2003-514052

2002
0626

CN 1555402 A 20041215 CN 2002-818005

2002
0626

PRIORITY APPLN. INFO.:

US 2001-908168

A

2001
0718

WO 2002-US20446

W

2002
0626

AB The composition comprises a polycarbonate, a short-chained polydiorganosiloxane, a branching agent, and a bromine- or chlorine-free flame retardant, wherein the amount of short-chained polydiorganosiloxane is $\leq 1\%$. Thus, 50 parts polycarbonate obtained from bisphenol A 8969, D 10 Fluid [eugenol-capped polydimethylsiloxane (prepared from octamethylcyclotetrasiloxane, tetramethyldisiloxane and eugenol)] 88, 1,1,1-tris(4-hydroxyphenyl)ethane 30 and phosgene 4582 parts and 50 parts bisphenol A-1,1,1-tris(4-hydroxyphenyl)ethane-phosgene copolymer were mixed with potassium perfluorobutanesulfone 0.08 and pentaerythritol tetrastearate 0.35 parts, extruded, and molded to give a test piece showing UL-94 fire resistance rating V-0.

IT 491612-39-6DP, Octamethylcyclotetrasilane-1,1,3,3-tetramethyldisiloxane copolymer, eugenol-terminated (transparent fire-resistant branched polysiloxane-polycarbonate block copolymer compns.)

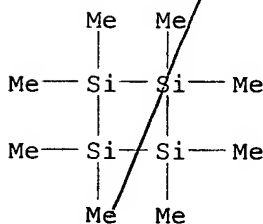
RN 491612-39-6 HCAPLUS

CN Cyclotetrasilane, octamethyl-, polymer with tetramethyldisiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 38041-04-2

CMF C8 H24 Si4



CM 2

CRN 30110-74-8

CMF C4 H14 O Si2

CCI IDS

H₃Si-O-SiH₃

4 (D1-Me)

IC ICM C08L083-00
ICS C08L069-00; C08K005-00; C08J003-22; C08K005-54
CC 37-6 (Plastics Manufacture and Processing)
IT 97-53-0DP, Eugenol, reaction products with polydimethylsiloxane
163617-00-3P 491612-39-6DP, Octamethylcyclotetrasilane-
1,1,3,3-tetramethyldisiloxane copolymer, eugenol-terminated
(transparent fire-resistant branched polysiloxane-polycarbonate
block copolymer compns.)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L16 ANSWER 9 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:464506 HCAPLUS
DOCUMENT NUMBER: 137:54616
TITLE: Positive-working photoresist composition for
semiconductor device fabrication
INVENTOR(S): Sasaki, Tomoya; Mizutani, Kazuyoshi; Yasunami,
Shoichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 48 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002174903	A2	20020621	JP 2000-373077	2000 1207

PRIORITY APPLN. INFO.: JP 2000-373077
2000
1207

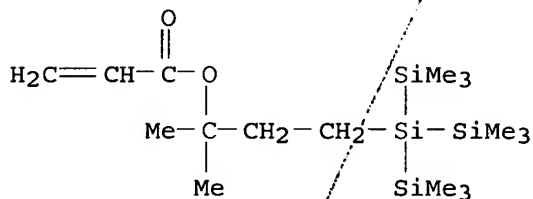
AB The title composition contains a resin increasing solubility in alkaline
developer by an acid and a radiation- or actinic ray -sensitive
acid generator, wherein the resin has repeating unit
[-COO-C(R1)(R2)-{C(R3)(R4)}m1-Si(R5)(R6)(R7)] (m1 = 1-6 integer;
R1-2 = alkyl; R3-4 = H, alkyl; R5-7 = alkyl, aryl, allyl, etc.)
and [-CH2-C(Y){L2-COO-C(R1)(R2)-{C(R3)(R4)}m1-Si(R5)(R6)(R7)}] (Y
= H, Me, cyano, Cl; m1 = 1-6 integer; R1-2 = alkyl; R3-4 = H,
alkyl; R5-7 = alkyl, aryl, allyl, etc.). The composition provides the
high resolution and the good pattern edge characteristics.
IT 438206-85-0 438206-86-1 438206-87-2
438206-90-7 438206-91-8
(resin in pos.-working photoresist composition for
semiconductor device fabrication)
RN 438206-85-0 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethyl-3-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]propyl ester, polymer with tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 438206-84-9

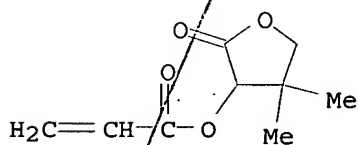
CMF C17 H40 O2 Si4



CM 2

CRN 84822-49-1

CMF C9 H12 O4



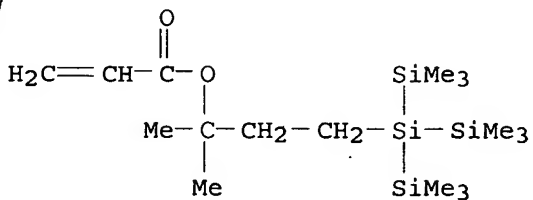
RN 438206-86-1 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethyl-3-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]propyl ester, polymer with 2,5-furandione and tetrahydro-5,5-dimethyl-2-oxo-3-furanyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 438206-84-9

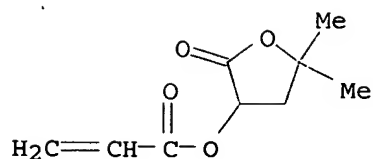
CMF C17 H40 O2 Si4



CM 2

CRN 276874-08-9

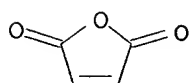
CMF C9 H12 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



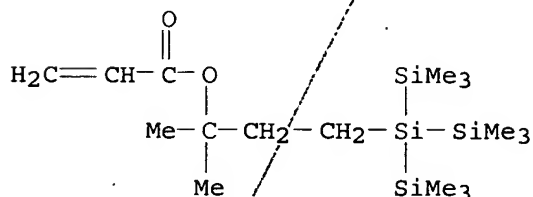
RN 438206-87-2 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethyl-2-oxo-2-[(tetrahydro-2-oxo-3-furanyl)oxy]ethyl ester, polymer with 1,1-dimethyl-3-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]propyl 2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 438206-84-9

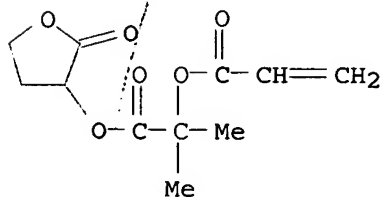
CMF C17 H40 O2 Si4



CM 2

CRN 383196-94-9

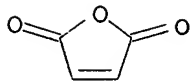
CMF C11 H14 O6



CM 3

CRN 108-31-6

CMF C4 H2 O3



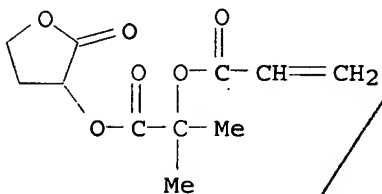
RN 438206-90-7 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethyl-3-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]propyl ester, polymer with 1,1-dimethyl-2-oxo-2-[(tetrahydro-2-oxo-3-furanyl)oxy]ethyl 2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 383196-94-9

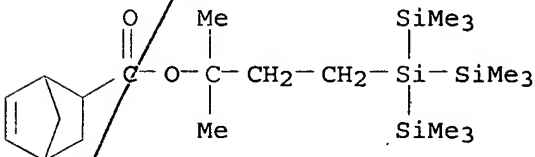
CMF C11 H14 O6



CM 2

CRN 250589-01-6

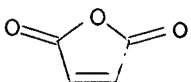
CMF C22 H46 O2 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3



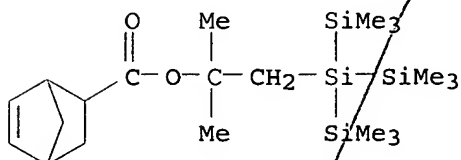
RN 438206-91-8 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethyl-2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with 2,5-furandione and tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249633-97-4

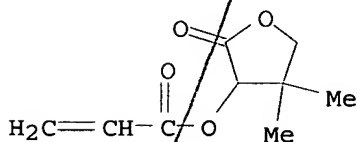
CMF C21 H44 O2 Si4



CM 2

CRN 84822-49-1

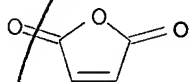
CMF C9 H12 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

ICS C08K005-00; C08K005-42; C08L101-02; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 76

IT 438206-85-0 438206-86-1 438206-87-2

438206-89-4 438206-90-7 438206-91-8

(resin in pos.-working photoresist composition for semiconductor device fabrication)

L16 ANSWER 10 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:207591 HCAPLUS

DOCUMENT NUMBER: 136:248426

TITLE: Acrylic polymer-polysiloxane thermoplastic rubber compositions for various parts

INVENTOR(S): Hashiba, Atsushi; Tatsuta, Atsuo
 PATENT ASSIGNEE(S): Nippon A and L Co., Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002080684	A2	20020319	JP 2000-271780	2000 0907

PRIORITY APPLN. INFO.: JP 2000-271780
 2000
 0907

AB The title compns., with balanced impact and weather resistance, surface gloss, and coloring property, useful for automobile parts, building materials, etc., comprise (a) 1-100% graft copolymer derived by grafting 10-200% aromatic vinyl, cyanovinyl, and/or alkyl (meth)acrylate monomers (e.g., acrylonitrile and styrene) on composite rubber emulsion with average diameter 0.01-0.2 μ m prepared from siloxane rubber (e.g., γ -methacryloyloxypropyltrimethoxysilane-octamethylcyclotetrasilane-tetraethoxysilane copolymer) 1-20, conjugated diene rubber (e.g., of butadiene) 1-20, and alkyl (meth)acrylate polymer rubber (e.g., acrylonitrile-allyl methacrylate-Bu acrylate copolymer) 60-98% and (b) 0-99% copolymer of aromatic vinyl, cyanovinyl, and/or alkyl (meth)acrylate monomers (e.g., acrylonitrile-styrene copolymer).

IT 403982-43-4DP, γ -Methacryloyloxypropyltrimethoxysilane-octamethylcyclotetrasilane-tetraethoxysilane copolymer, polymer with butadiene and acrylic polymers, grafted by acrylonitrile and styrene

(rubber; acrylic polymer-polysiloxane thermoplastic rubber compns. for various parts)

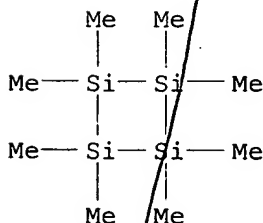
RN 403982-43-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with octamethylcyclotetrasilane and silicic acid (H₄SiO₄) tetraethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 38041-04-2

CMF C8 H24 Si4



JP 2002062654

A2

20020228

JP 2000-246734

2000
0816

PRIORITY APPLN. INFO.:

JP 2000-246734

2000
0816

AB The title composition contains an acid-sensitive polysiloxane[(R1)(R2)(R3)Si-M1(CO2Q)-L1-(CH2)n-SiO3/2] (L1 = -A-OCO-, -A-COO-, -A-NHCO-, etc.; A = 2-valent connecting group; M1 = methylidene, 3-valent alicyclics, 3-valent aromatic rings; n = 1-6 integer; Q = group generating carboxylic acid by acid; R1-3 = alkyl, alkoxy, trialkylsilyl). The composition provides the improved pattern profile.

IT 401817-75-2P 401818-72-2P

(polysilane in pos.-working photoresist composition)

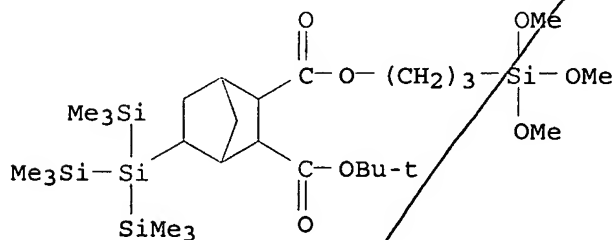
RN 401817-75-2 HCAPLUS

CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid, 5-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]-, 3-(1,1-dimethylethyl) 2-[3-(trimethoxysilyl)propyl] ester, polymer with cyclohexyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 401817-74-1

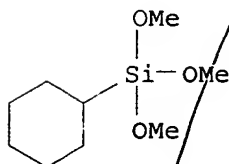
CMF C28 H60 O7 Si5



CM 2

CRN 17865-54-2

CMF C9 H20 O3 Si



RN 401818-72-2 HCAPLUS

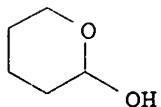
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 3-[[[3-(triethoxysilyl)propyl]amino]carbonyl]-6-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]-, polymer with

cyclohexyltrimethoxysilane, tetrahydro-2H-pyran-2-yl ester (9CI)
(CA INDEX NAME)

CM 1

CRN 694-54-2

CMF C5 H10 O2



CM 2

CRN 401818-71-1

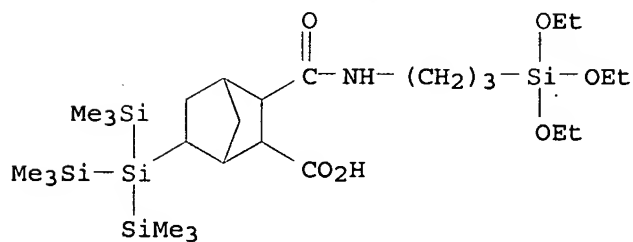
CMF (C27 H59 N O6 Si5 . C9 H20 O3 Si)x

CCI PMS

CM 3

CRN 401818-70-0

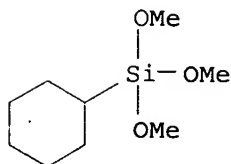
CMF C27 H59 N O6 Si5



CM 4

CRN 17865-54-2

CMF C9 H20 O3 Si



IC ICM G03F007-039

ICS C08G077-22; C08K005-00; C08L083-08; G03F007-004; G03F007-075;
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 35, 76

IT 110-87-2P, Dihdropyran 919-30-2DP, 3-
 Aminopropyltriethoxysilane, reaction product with
 4-tris(trimethylsilyl)silylnorbornanedicarboxylic acid anhydride
 401817-75-2P 401818-72-2P 401818-76-6P
 401818-77-7P
 (polysilane in pos.-working photoresist composition)

L16 ANSWER 12 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:26270 HCAPLUS
 DOCUMENT NUMBER: 136:110118
 TITLE: Radiation-sensitive photoresist composition
 for microlithography
 INVENTOR(S): Takahashi, Omote; Yasunami, Shoichiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002006496	A2	20020109	JP 2000-191529	2000 0626

PRIORITY APPLN. INFO.:

JP 2000-191529

2000
0626

AB The title composition contains a resin, which increases the solubility rate in an alkali solution by reacting with an acid, a photoacid generator, a solvent, and an organic basic compound such as amine, wherein the resin contains Si and wherein the basic compound contains basic repeating units. The composition, which contains the resin having Si and the basic compound, provides the good pattern profile and the high resolution pattern.

IT 381691-11-8P 388088-23-1P 388088-24-2P
 388088-26-4P 388088-27-5P
 (resin in radiation-sensitive photoresist composition for microlithog.)

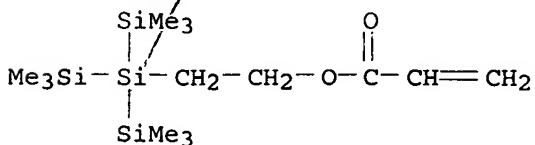
RN 381691-11-8 HCAPLUS

CN 2-Propenoic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

CMF C14 H34 O2 Si4

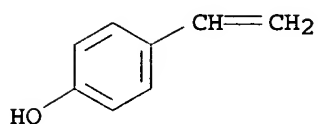


*no
CoAsil/kg
component.*

CM 2

CRN 2628-17-3

CMF C8 H8 O



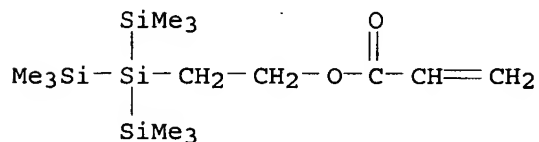
RN 388088-23-1 HCAPLUS

CN 2-Propenoic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

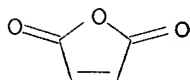
CMF C14 H34 O2 Si4



CM 2

CRN 108-31-6

CMF C4 H2 O3



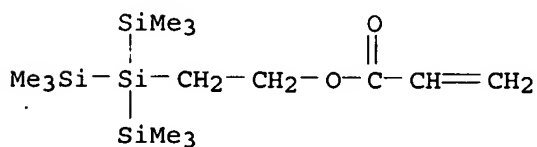
RN 388088-24-2 HCAPLUS

CN 2-Propenoic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with 4-ethenylphenol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

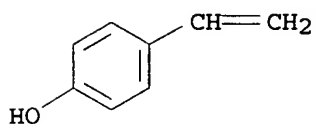
CMF C14 H34 O2 Si4



CM 2

CRN 2628-17-3

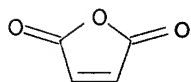
CMF C8 H8 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



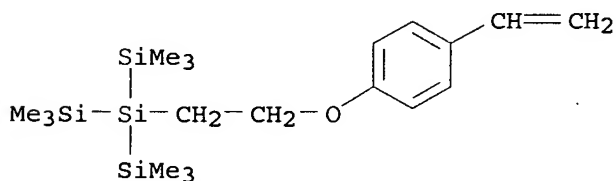
RN 388088-26-4 HCAPLUS

CN 2-Propenoic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with 2-[2-(4-ethenylphenoxy)ethyl]-1,1,1,3,3,3-hexamethyl-2-(trimethylsilyl)trisilane and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 388088-25-3

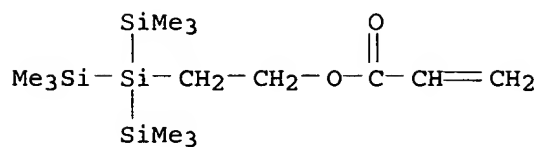
CMF C19 H38 O Si4



CM 2

CRN 335385-69-8

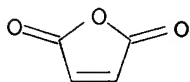
CMF C14 H34 O2 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3



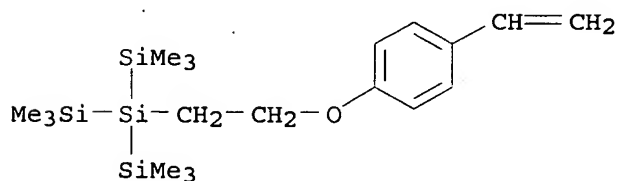
RN 388088-27-5 HCAPLUS

CN Benzoic acid, 4-ethenyl-, polymer with 2-[2-(4-ethenylphenoxy)ethyl]-1,1,1,3,3,3-hexamethyl-2-(trimethylsilyl)trisilane and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 388088-25-3

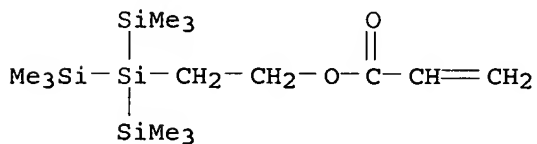
CMF C19 H38 O Si4



CM 2

CRN 335385-69-8

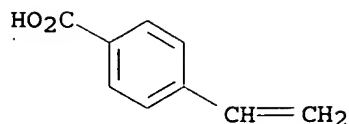
CMF C14 H34 O2 Si4



CM 3

CRN 1075-49-6

CMF C9 H8 O2



IC ICM G03F007-039
 ICS G03F007-004; G03F007-075; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT 314295-77-7P, Maleic anhydride-Allyltrimethylsilane-tert-Butyl acrylate-Methyl acrylate copolymer 381691-11-8P
 388088-22-0P 388088-23-1P 388088-24-2P
 388088-26-4P 388088-27-5P 388088-28-6P
 388088-30-0P
 (resin in radiation-sensitive photoresist composition for microlithog.)

L16 ANSWER 13 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:919120 HCAPLUS
 DOCUMENT NUMBER: 136:61516
 TITLE: Light-sensitive positive-working resin composition containing polymer having silane
 INVENTOR(S): Yasunami, Shoichiro; Kodama, Kunihiko
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001350262	A2	20011221	JP 2000-164640	2000 0601
PRIORITY APPLN. INFO.:			JP 2000-105102	A 2000 0406

AB The title composition contains a water-insol. polymer becoming alkali soluble by reacting with an acid, a photoacid generator generating carboxylic acids, and a solvent, wherein the polymer contains silane in the side chain. The composition provides the high resolution photoresist with far-UV exposure light.

IT 343605-02-7P 343605-06-1P 381691-08-3P
 381691-11-8P
 (light-sensitive pos.-working resin composition containing silane)

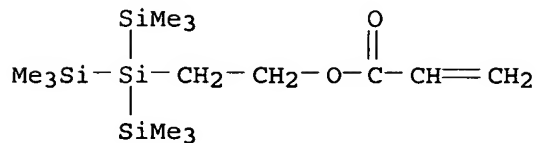
RN 343605-02-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

no crosslinking compound

CM 1

CRN 335385-69-8

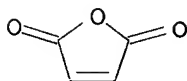
CMF C14 H34 O2 Si4



CM 2

CRN 108-31-6

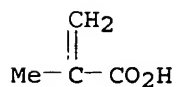
CMF C4 H2 O3



CM 3

CRN 79-41-4

CMF C4 H6 O2



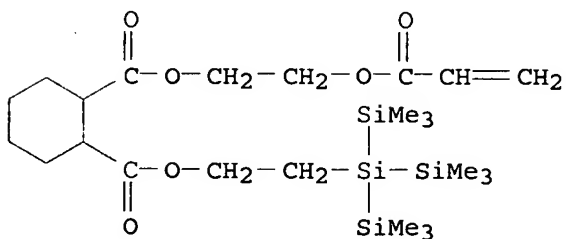
RN 343605-06-1 HCAPLUS

CN 1,2-Cyclohexanedicarboxylic acid, 2-[(1-oxo-2-propenyl)oxy]ethyl
2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester,
polymer with 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 343605-05-0

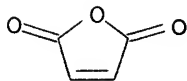
CMF C24 H48 O6 Si4



CM 2

CRN 108-31-6

CMF C4 H2 O3



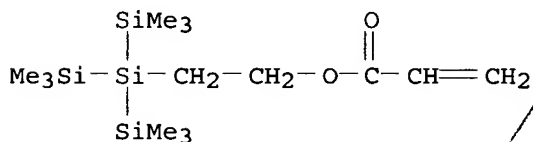
RN 381691-08-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with
2-propenoic acid and 2-[2,2,2-trimethyl-1,1-
bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX
NAME)

CM 1

CRN 335385-69-8

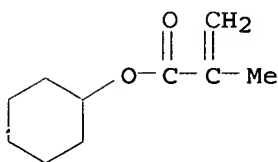
CMF C14 H34 O2 Si4



CM 2

CRN 101-43-9

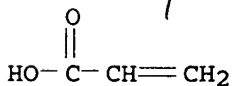
CMF C10 H16 O2



CM 3

CRN 79-10-7

CMF C3 H4 O2



RN 381691-11-8 HCAPLUS

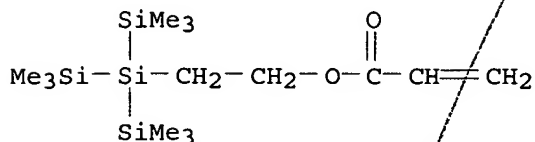
CN 2-Propenoic acid, 2-[2,2,2-trimethyl-1,1-
bis(trimethylsilyl)disilanyl]ethyl ester, polymer with

4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

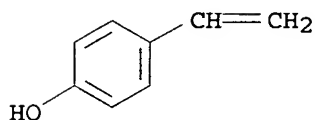
CMF C14 H34 O2 Si4



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039

ICS C08F030-08; C08K005-00; C08L043-04; C08L101-10; G03F007-075;
H01L021-027CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)IT 336609-31-5P, Trimethylallylsilane-Maleic anhydride-tert-Butyl
acrylate copolymer 343605-01-6P 343605-02-7P

343605-03-8P 343605-04-9P 343605-06-1P 343605-08-3P

343605-09-4P 354585-44-7P 354585-47-0P 381691-07-2P

381691-08-3P 381691-09-4P 381691-10-7P

381691-11-8P

(light-sensitive pos.-working resin composition containing
silane)

L16 ANSWER 14 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:903497 HCAPLUS

DOCUMENT NUMBER: 136:45680

TITLE: Light-sensitive material composition
containing polymer having silane in side chain

INVENTOR(S): Yasunami, Shoichiro; Kawabe, Yasumasa

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001343749	A2	20011214	JP 2000-164834	

2000
0601

PRIORITY APPLN. INFO.:

JP 2000-164834

2000
0601

AB The title composition contains a polymer becoming alkali soluble by reacting with an acid, an acid-generator, and a compound having a -C(=O)-N(OH)- group. The light-sensitive material composition, which contains the polymer having Si in the side chain and the aforementioned N-containing compound, provides improved pattern line edge roughness.

IT 379699-77-1P

(polymer containing Si in side chain in light-sensitive material composition)

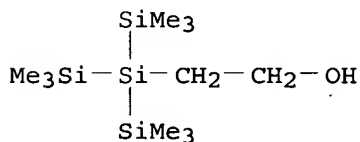
RN 379699-77-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,5-furandione, 2-propenoic acid and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 90913-72-7

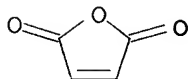
CMF C11 H32 O Si4



CM 2

CRN 108-31-6

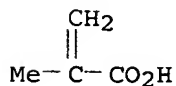
CMF C4 H2 O3



CM 3

CRN 79-41-4

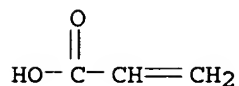
CMF C4 H6 O2



CM 4

DO
Caps 1/18
compound

CRN 79-10-7
CMF C3 H4 O2



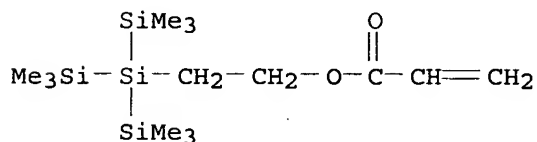
IT 379699-80-6P
(polymer containing Si in side chain in light-sensitive material composition)

RN 379699-80-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with cyclohexyl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

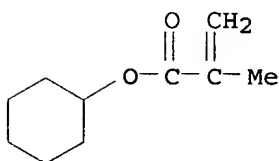
CM 1

CRN 335385-69-8
CMF C14 H34 O2 Si4



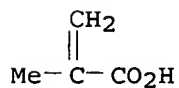
CM 2

CRN 101-43-9
CMF C10 H16 O2



CM 3

CRN 79-41-4
CMF C4 H6 O2



IC ICM G03F007-039
ICS C08F220-00; C08F222-06; C08F222-40; C08F230-08; C08K005-00;

C08K005-16; C08K005-32; C08L043-04; C08L101-02; G03F007-004;
G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 76

IT 379699-77-1P
(polymer containing Si in side chain in light-sensitive material
composition)

IT 336609-31-5P, Trimethylallylsilane-Maleic anhydride-tert-Butyl
acrylate copolymer 340960-57-8P 340960-62-5P 343605-01-6P
343605-03-8P 343605-04-9P 379699-80-6P 379699-95-3P
379700-00-2P
(polymer containing Si in side chain in light-sensitive material
composition)

L16 ANSWER 15 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:760378 HCAPLUS

DOCUMENT NUMBER: 135:310932

TITLE: Positive-working photoresist compositions for
semiconductor device fabrication

INVENTOR(S): Sato, Kenichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001290273	A2	20011019	JP 2000-106810	2000 0407

PRIORITY APPLN. INFO.: JP 2000-106810

AB The comps., which show high sensitivity, high resolution, and good
PED (post exposure delay) stability and are especially useful in contact
hole formation, contain (A) resins which have a repeating unit (I)
[CH₂CH[(CH₂)_nSiR₁R₂R₃]] (R₁-R₃ = alkyl, haloalkyl, alkoxy,
trialkylsilyl, trialkylsilyloxy; n = 0, 1) and another repeating
unit (II) having a group CO₂CHR₁₁OR₁₂ (R₁₁ = H, alkyl; R₁₂ =
hydrocarbyl) and show increased solubility in an alkaline developer by acid
composition and (B) compds. which generate acids upon irradiation with
actinic ray or radiation. The resins may have a repeating unit
derived from maleic anhydride or maleimide.

IT 366815-02-3P 366815-04-5P 366815-05-6P
366815-07-8P 366815-09-0P 366815-10-3P
366815-14-7P 366815-15-8P

(pos. photoresist comps. with good post exposure
delay stability containing resins having silyl group)

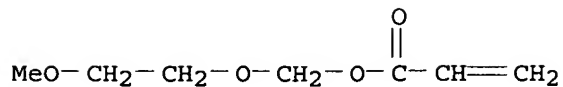
RN 366815-02-3 HCAPLUS

CN 2-Propenoic acid, (2-methoxyethoxy)methyl ester, polymer with
2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-
(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

CM 1

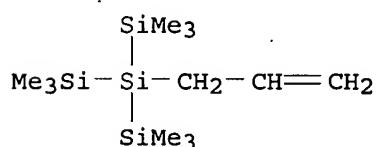
*No
Copyright
Component*

CRN 366814-97-3
CMF C7 H12 O4



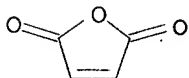
CM 2

CRN 136649-77-9
CMF C12 H32 Si4



CM 3

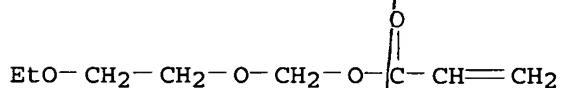
CRN 108-31-6
CMF C4 H2 O3



RN 366815-04-5 HCAPLUS
CN 2-Propenoic acid, tetrahydro-5,5-dimethyl-2-oxo-3-furanyl ester, polymer with (2-ethoxyethoxy)methyl 2-propenoate, 2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

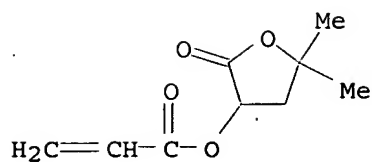
CM 1

CRN 366815-03-4
CMF C8 H14 O4



CM 2

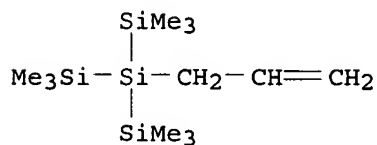
CRN 276874-08-9
CMF C9 H12 O4



CM 3

CRN 136649-77-9

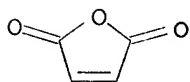
CMF C12 H32 Si4



CM 4

CRN 108-31-6

CMF C4 H2 O3



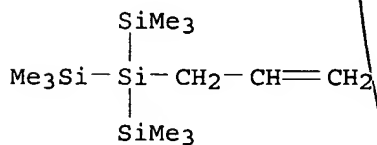
RN 366815-05-6 HCAPLUS

CN 2-Propenoic acid, 1-(2-methylpropoxy)ethyl ester, polymer with
2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-
(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

CM 1

CRN 136649-77-9

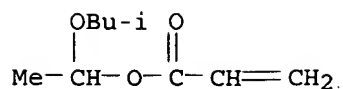
CMF C12 H32 Si4



CM 2

CRN 90646-92-7

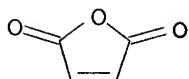
CMF C9 H16 O3



CM 3

CRN 108-31-6

CMF C4 H2 O3



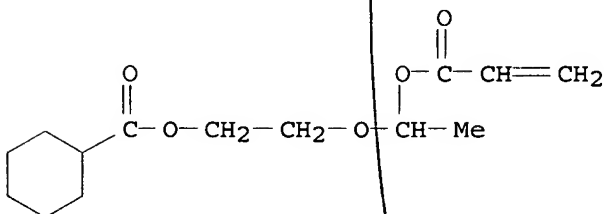
RN 366815-07-8 HCAPLUS

CN Cyclohexanecarboxylic acid, 2-[1-[(1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

CM 1

CRN 366815-06-7

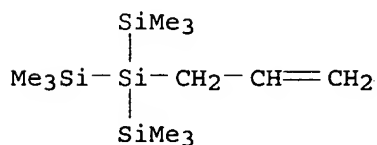
CMF C14 H22 O5



CM 2

CRN 136649-77-9

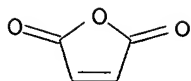
CMF C12 H32 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3



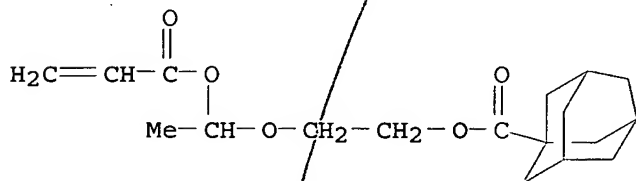
RN 366815-09-0 HCAPLUS

CN Tricyclo[3.3.1.1^{3,7}]decane-1-carboxylic acid, 2-[1-[(1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

CM 1

CRN 366815-08-9

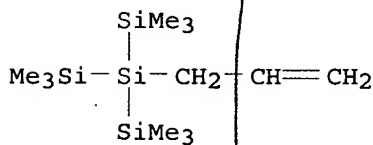
CMF C18 H26 O5



CM 2

CRN 136649-77-9

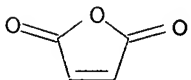
CMF C12 H32 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3

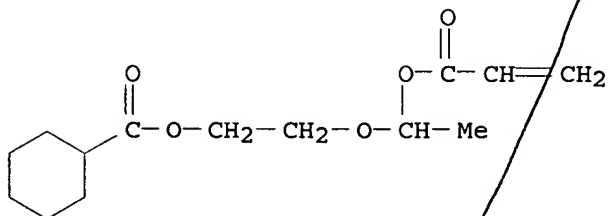


RN 366815-10-3 HCAPLUS

CN Cyclohexanecarboxylic acid, 2-[1-[(1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2,5-furandione, 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane and tetrahydro-2-oxo-3-furanyl 2-propenoate (9CI) (CA INDEX NAME)

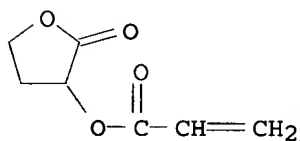
CM 1

CRN 366815-06-7
CMF C14 H22 O5



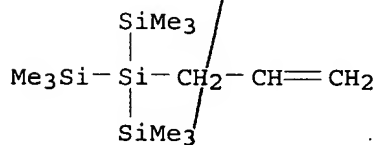
CM 2

CRN 328249-37-2
CMF C7 H8 O4



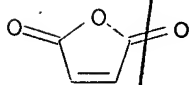
CM 3

CRN 136649-77-9
CMF C12 H32 Si4



CM 4

CRN 108-31-6
CMF C4 H2 O3

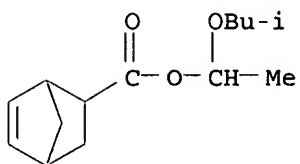


RN 366815-14-7 HCAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-(2-methylpropoxy)ethyl ester, polymer with 2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

CM 1

CRN 366815-13-6

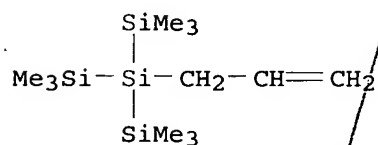
CMF C14 H22 O3



CM 2

CRN 136649-77-9

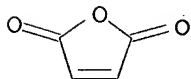
CMF C12 H32 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3



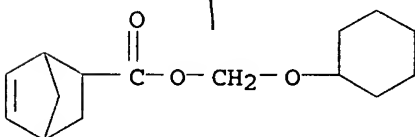
RN 366815-15-8 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, (cyclohexyloxy)methyl ester, polymer with 2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

CM 1

CRN 318240-06-1

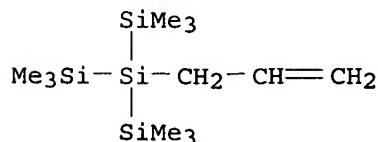
CMF C15 H22 O3



CM 2

CRN 136649-77-9

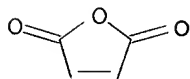
CMF C12 H32 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

ICS C08F220-26; C08F222-00; C08F230-08; C08F232-00; C08K005-00;
C08L035-00; C08L043-04; C08L101-06; G03F007-075; H01L021-027CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)IT 336609-27-9P, Allyltrimethylsilane-ethoxymethyl acrylate-maleic
anhydride copolymer 366814-98-4P 366814-99-5P 366815-01-2P
366815-02-3P 366815-04-5P 366815-05-6P
366815-07-8P 366815-09-0P 366815-10-3P
366815-12-5P 366815-14-7P 366815-15-8P(pos. photoresist compns. with good post exposure
delay stability containing resins having silyl group)

L16 ANSWER 16 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:635655 HCAPLUS

DOCUMENT NUMBER: 135:203013

TITLE: Positive-working photoresist compositions
containing specific mixed solvents

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001235870	A2	20010831	JP 2000-47972	2000 0224

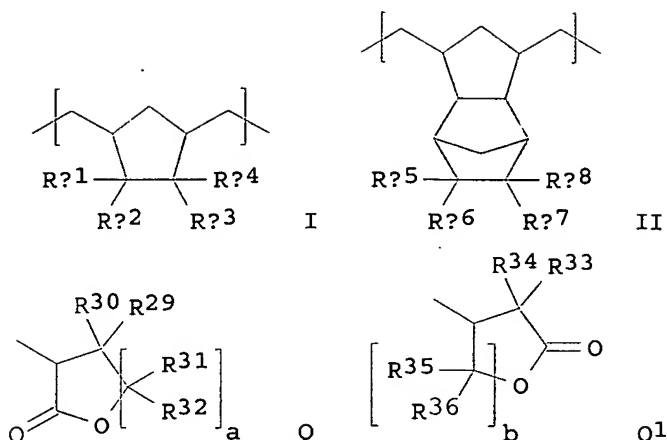
PRIORITY APPLN. INFO.:

JP 2000-47972

2000

0224

GI



AB The compns., which are storage stable and provide a resist pattern with decreased edge roughness in semiconductor device fabrication, contain (A) a compound which generates acid by irradiation with actinic ray or radiation, (B) a resin which is decomposed with acids to become alkali-soluble and contains ≥ 1 repeating unit selected from I [Rc1-Rc4 = H, (un)substituted alkyl, (un)substituted cyclic hydrocarbyl, halo, cyano, CO₂H, COYARC9, COYACO₂(CH₂)₂SiR'R''R''', CO₂Rc11, CO₂(CH₂)₂SiR'R''R'''; R', R'', R''' = alkyl, trialkylsilyl, trialkylsilyloxy; Y = O, S, NH, NHSO₂, NHSO₂NH; Rc9 = CO₂H, CO₂Rc10 (Rc10 = any group given for Rc11, Q, Q1), cyano, OH, (un)substituted alkoxy, CONHRc11, CONHSO₂Rc11, Q, Q1; Rc11 = (un)substituted alkyl, (un)substituted cycloalkyl; A = direct bond, (un)substituted alkylene, ether, thioether, CO, ester, amido, etc.; R29-R36 = H, (un)substituted alkyl; a, b = 1, 2; ≥ 1 of Rc1-Rc4 = ≥ 1 of Rc1-Rc4 = COYACO₂(CH₂)₂SiR'R''R''' or CO₂(CH₂)₂SiR'R''R'''] and II (Rc5-Rc8 = any group given for Rc1-Rc4), and (C) a mixed solvent containing ≥ 1 selected from (a) propylene glycol monoalkyl ether alkoxyates, ≥ 1 selected from (b) propylene glycol monoalkyl ethers, alkyl lactates, and alkoxyalkyl propionates, and ≥ 1 selected from (c) γ -butyrolactone, ethylene carbonate, and propylene carbonate. Alternately (C) is a mixed solvent containing ≥ 1 alkyl lactates, an ester solvent, and ≥ 1 alkoxyalkyl propionates. (C) may contain heptanone.

IT 357193-74-9 357193-75-0 357193-80-7

357193-83-0 357193-85-2

(pos.-working photoresist compns. containing silylethoxycarbonyl-containing resin and specific mixed solvents to decrease edge roughness)

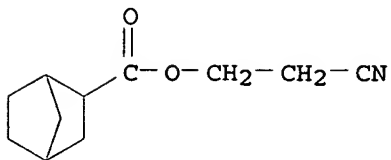
RN 357193-74-9 HCAPLUS

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 2-cyanoethyl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357193-73-8

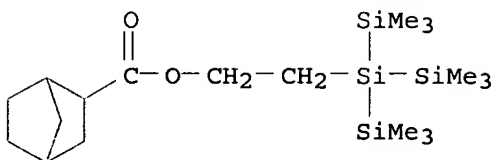
CMF C11 H15 N O2



CM 2

CRN 357193-72-7

CMF C19 H42 O2 Si4



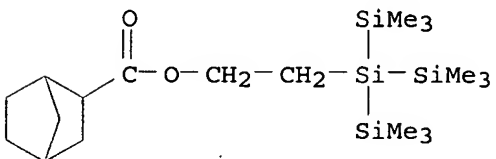
RN 357193-75-0 HCAPLUS

CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid, mono(2-hydroxyethyl)
 ester, polymer with 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]heptane-2-
 carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357193-72-7

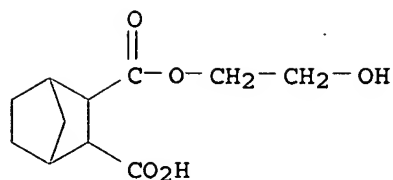
CMF C19 H42 O2 Si4



CM 2

CRN 244258-08-0

CMF C11 H16 O5



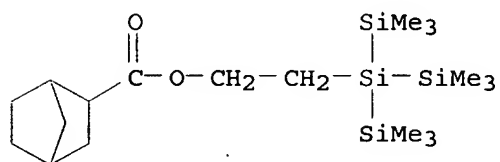
RN 357193-80-7 HCAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2,3-dicarboxylic acid, decahydro-, dimethyl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357193-72-7

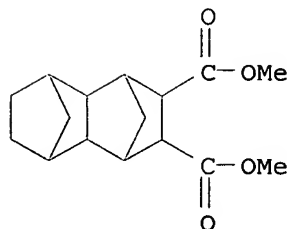
CMF C19 H42 O2 Si4



CM 2

CRN 133830-40-7

CMF C16 H22 O4



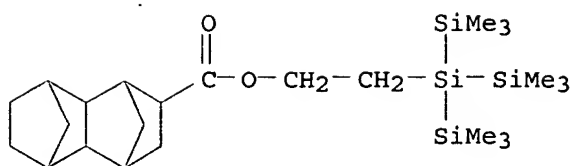
RN 357193-83-0 HCAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2,3-dicarboxylic acid, decahydro-, bis(2-hydroxyethyl) ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357193-82-9

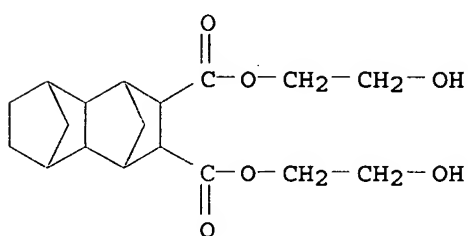
CMF C24 H48 O2 Si4



CM 2

CRN 357193-81-8

CMF C18 H26 O6



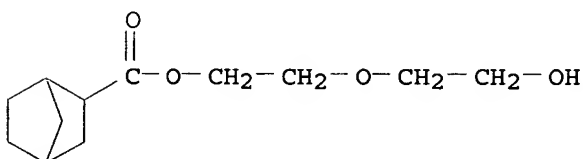
RN 357193-85-2 HCAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-,
2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester,
polymer with 2-(2-hydroxyethoxy)ethyl bicyclo[2.2.1]heptane-2-
carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357193-84-1

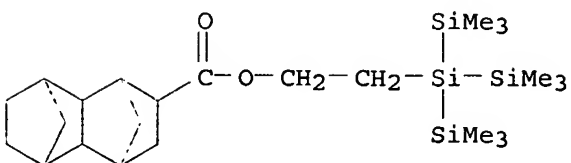
CMF C12 H20 O4



CM 2

CRN 357193-82-9

CMF C24 H48 O2 Si4



IC ICM G03F007-039
 ICS C08G061-08; C08K005-00; C08K005-3492; C08K005-353;
 C08K005-42; C08K005-49; C08K005-59; C08L065-00; G03F007-004;
 H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 76

IT 96-48-0, γ -Butyrolactone 97-64-3, Ethyl lactate
 108-32-7, Propylene carbonate 110-43-0, 2-Heptanone 123-86-4,
 Butyl acetate 1320-67-8, Propylene glycol monomethyl ether
 7570-02-7 14272-48-1 29299-43-2, Heptanone 52847-71-9
 84540-57-8, Propylene glycol monomethyl ether acetate
 98516-33-7, Propylene glycol monomethyl ether propionate
 357193-74-9 357193-75-0 357193-78-3
 357193-80-7 357193-83-0 357193-85-2
 (pos.-working photoresist compns. containing
 silylethoxycarbonyl-containing resin and specific mixed solvents to
 decrease edge roughness)

L16 ANSWER 17 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:635654 HCAPLUS

DOCUMENT NUMBER: 135:218725

TITLE: Positive-working far-UV photoresist
 composition containing sulfonium salts as
 photoacid generators

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

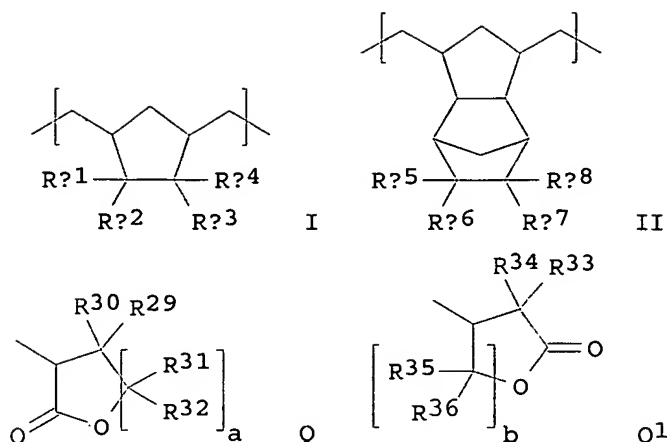
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001235869	A2	20010831	JP 2000-47971	2000 0224

PRIORITY APPLN. INFO.: JP 2000-47971

2000
0224

OTHER SOURCE(S): MARPAT 135:218725

GI



AB The comps., which are storage stable and show high sensitivity and resolution in formation of contact hole pattern in semiconductor device fabrication, contain (A) S+R1R2R3 Z- [R1-R3 = (un)substituted alkyl, (un)substituted aryl, 2 of R1-R3 may bonded together to via direct bond or substituent; Z- = counter anion] which generate acids by irradiation with actinic ray or radiation and (B) a resin which is decomposed with acids to become alkali-soluble and contains ≥ 1 repeating unit selected from I [Rc1-Rc4 = H, (un)substituted alkyl, (un)substituted cyclic hydrocarbyl, halo, cyano, CO₂H, COYARc9, COYACO₂(CH₂)₂SiR'R''R''', CO₂Rc11, CO₂(CH₂)₂SiR'R''R'''; R', R'', R''' = alkyl, trialkylsilyl, trialkylsilyloxy; Y = O, S, NH, NHSO₂, NHSO₂NH; Rc9 = CO₂H, CO₂Rc10 (Rc10 = any group given for Rc11, Q, Q1), cyano, OH, (un)substituted alkoxy, CONHRc11, CONHSO₂Rc11, Q, Q1; Rc11 = (un)substituted alkyl, (un)substituted cycloalkyl; A = direct bond, (un)substituted alkylene, ether, thioether, CO, ester, amido, etc.; R29-R36 = H, (un)substituted alkyl; a, b = 1, 2; ≥ 1 of Rc1-Rc4 = ≥ 1 of Rc1-Rc4 = COYACO₂(CH₂)₂SiR'R''R''' or CO₂(CH₂)₂SiR'R''R'''] and II (Rc5-Rc8 = any group given for Rc1-Rc4).

IT 351195-81-8D, ring-opening polymerization 351195-82-9D, ring-opening polymerization 357444-12-3D, ring-opening polymerization 357444-15-6 357444-17-8D, ring-opening polymerization (pos.-working far-UV photoresist composition containing sulfonium salts as photoacid generators and silylethoxycarbonyl-containing resins)

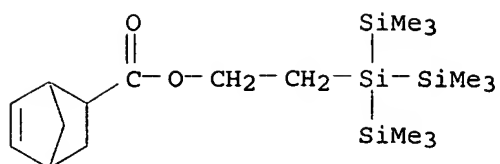
RN 351195-81-8 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-cyanoethyl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

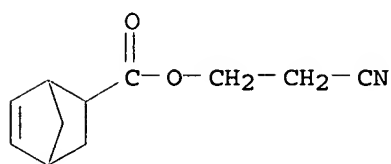
CMF C19 H40 O2 Si4



CM 2

CRN 303154-39-4

CMF C11 H13 N O2



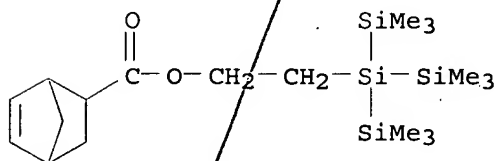
RN 351195-82-9 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid,
 mono(2-hydroxyethyl) ester, polymer with 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-
 carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

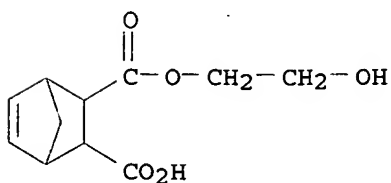
CMF C19 H40 O2 Si4



CM 2

CRN 260065-19-8

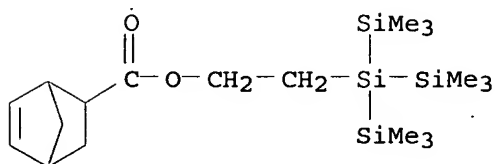
CMF C11 H14 O5



RN 357444-12-3 HCAPLUS
 CN 1,4:5,8-Dimethanonaphthalene-2,3-dicarboxylic acid,
 1,2,3,4,4a,5,8,8a-octahydro-, dimethyl ester, polymer with
 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
 bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

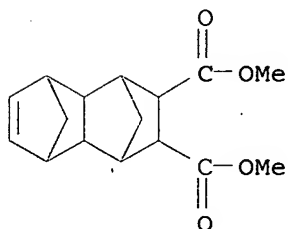
CM 1

CRN 337954-57-1
 CMF C19 H40 O2 Si4



CM 2

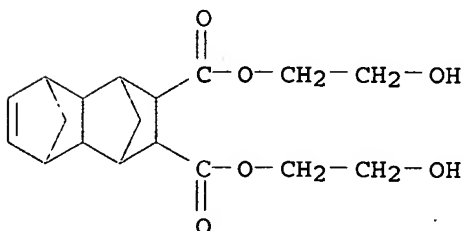
CRN 60095-28-5
 CMF C16 H20 O4



RN 357444-15-6 HCAPLUS
 CN 1,4:5,8-Dimethanonaphthalene-2,3-dicarboxylic acid,
 1,2,3,4,4a,5,8,8a-octahydro-, bis(2-hydroxyethyl) ester, polymer
 with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
 1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalene-2-
 carboxylate (9CI) (CA INDEX NAME)

CM 1

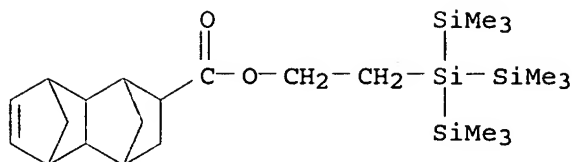
CRN 357444-14-5
 CMF C18 H24 O6



CM 2

CRN 357444-13-4

CMF C24 H46 O2 Si4



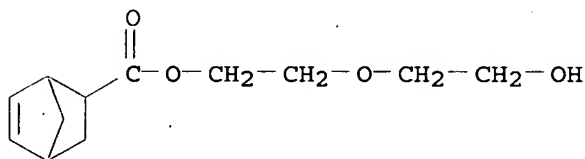
RN 357444-17-8 HCAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid,
 1,2,3,4,4a,5,8,8a-octahydro-, 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
 2-(2-hydroxyethoxy)ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate
 (9CI) (CA INDEX NAME)

CM 1

CRN 357444-16-7

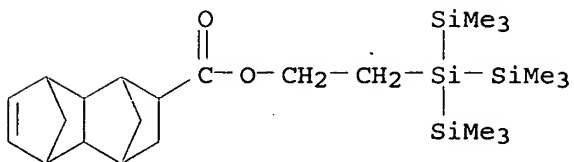
CMF C12 H18 O4



CM 2

CRN 357444-13-4

CMF C24 H46 O2 Si4



IC ICM G03F007-039

ICS C08G061-08; C08K005-42; C08L065-00; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 76

IT 351195-81-8D, ring-opening polymerization 351195-82-9D,
 ring-opening polymerization 351195-84-1D, ring-opening polymerization
 357444-12-3D, ring-opening polymerization 357444-15-6
 357444-17-8D, ring-opening polymerization

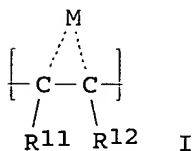
(pos.-working far-UV photoresist **composition** containing sulfonium salts as photoacid generators and silylethoxycarbonyl-containing resins)

L16 ANSWER 18 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:635653 HCAPLUS
 DOCUMENT NUMBER: 135:218724
 TITLE: Positive-working photoresist composition containing allylsilane-based resin
 INVENTOR(S): Sato, Kenichiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 63 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001235865	A2	20010831	JP 2000-46129	2000 0223
TW 513621	B	20021211	TW 2001-90102179	2001 0202
US 2001041303	A1	20011115	US 2001-789823	2001 0222
US 6528229	B2	20030304	JP 2000-46129	A 2000 0223

PRIORITY APPLN. INFO.: A

GI



- AB The photoresist composition comprises (A) a resin having repeating unit $\text{CH}_2\text{CH}(\text{CH}_2)_n\text{SiR}_1\text{R}_2\text{R}_3$ ($\text{R}_1\text{-R}_3$ = alkyl, haloalkyl, halo, alkoxy, trialkylsilyl, or trialkylsilyloxy; n = 0 or 1) and I (M = bond for linking 2 C atoms and forming an alicyclic structure which may have a substituent; R_{11} and R_{12} = H, cyano, halo, or (substituted) alkyl) and (B) a compound for generating an acid by irradiation of actinic ray or radiation. The composition provides resist pattern having minimized line width variation by SEM observation in semiconductor device fabrication.
- IT 357400-41-0 357400-42-1 357400-44-3
 357400-47-6

(pos.-working photoresist **composition** containing
allylsilane-based acid-decomposable resin)

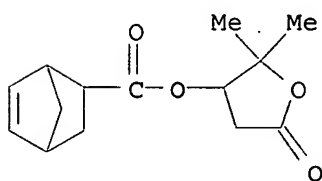
RN 357400-41-0 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2,5-furandione, 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane and tetrahydro-2,2-dimethyl-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357400-37-4

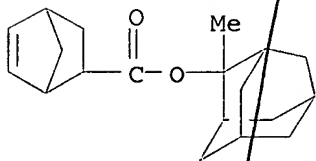
CMF C14 H18 O4



CM 2

CRN 328087-85-0

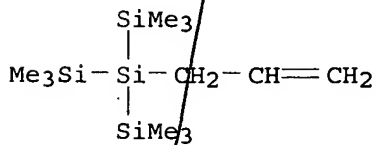
CMF C19 H26 O2



CM 3

CRN 136649-77-9

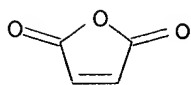
CMF C12 H32 Si4



CM 4

CRN 108-31-6

CMF C4 H2 O3



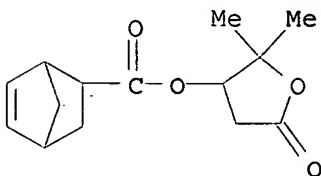
RN 357400-42-1 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane and tetrahydro-2,2-dimethyl-5-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357400-37-4

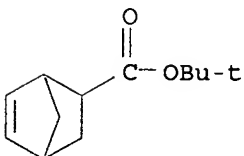
CMF C14 H18 O4



CM 2

CRN 154970-45-3

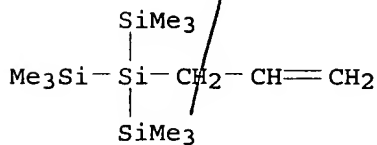
CMF C12 H18 O2



CM 3

CRN 136649-77-9

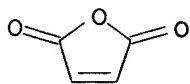
CMF C12 H32 Si4



CM 4

CRN 108-31-6

CMF C4 H2 O3



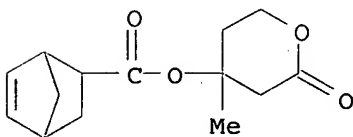
RN 357400-44-3 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, methoxymethyl ester, polymer with 2,5-furandione, 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357400-43-2

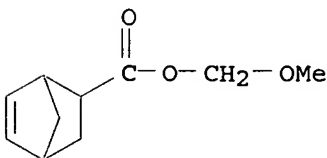
CMF C14 H18 O4



CM 2

CRN 216308-67-7

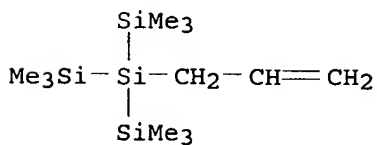
CMF C10 H14 O3



CM 3

CRN 136649-77-9

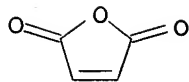
CMF C12 H32 Si4



CM 4

CRN 108-31-6

CMF C4 H2 O3

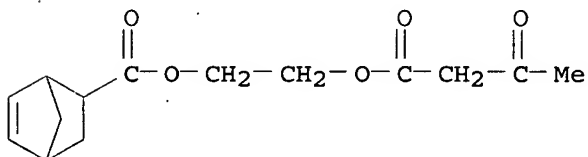


RN 357400-47-6 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(1,3-dioxobutoxy)ethyl ester, polymer with 2,5-furandione, 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane and 1-methyl-1-(tetrahydro-5-oxo-3-furanyl)ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357400-46-5

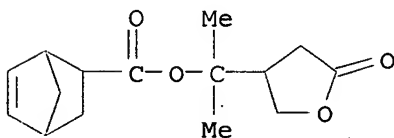
CMF C14 H18 O5



CM 2

CRN 357400-45-4

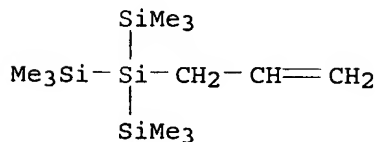
CMF C15 H20 O4



CM 3

CRN 136649-77-9

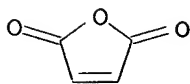
CMF C12 H32 Si4



CM 4

CRN 108-31-6

CMF C4 H2 O3

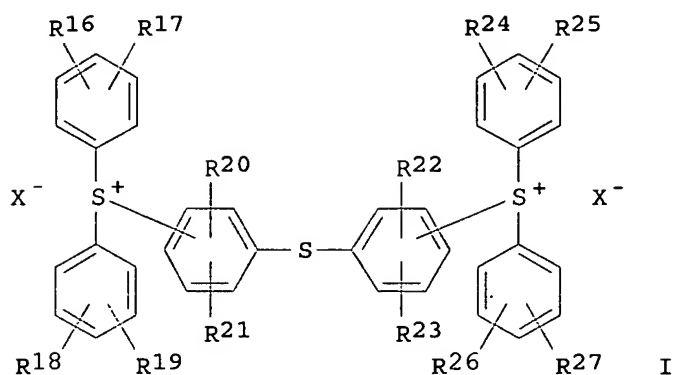


IC ICM G03F007-039
 ICS C08F222-00; C08F222-06; C08F230-08; C08F232-08; C08K005-00;
 C08L035-00; C08L035-02; C08L043-04; C08L045-00; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 76
 IT 357400-36-3 357400-38-5 357400-39-6 357400-40-9
 357400-41-0 357400-42-1 357400-44-3
 357400-47-6
 (pos.-working photoresist **composition** containing
 allylsilane-based acid-decomposable resin)

L16 ANSWER 19 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:632163 HCAPLUS
 DOCUMENT NUMBER: 135:203008
 TITLE: Positive-working far-UV photoresist
 compositions containing sulfonium or iodonium
 fluoroalkanesulfonates
 INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001235868	A2	20010831	JP 2000-47970	2000 0224
PRIORITY APPLN. INFO.:			JP 2000-47970	2000 0224

OTHER SOURCE(S): MARPAT 135:203008
 GI



AB The compns., which show a little line width variation of isolated line when amount of exposure is changed in manufacture of semiconductor devices, contain (A) ≥ 1 compound which generates sulfonic acids upon irradiation with actinic ray or radiation selected from $S^+(C_6R_1R_2R_3R_4R_5)(C_6R_6R_7R_8R_9R_{10})(C_6R_{11}R_{12}R_{13}R_{14}R_{15})X^-$ [$R_1-R_{15} = H$, alkyl, cycloalkyl, alkoxy, cycloalkoxy, OH, halo, SR38 ($R_{38} =$ alkyl, cycloalkyl, aryl)]; ≥ 2 of R_1-R_{15} may be bonded to form a ring; $X^- = R_fSO_3^-$ ($R_f = C_{\geq 2}$ fluoroalkyl, fluorocycloalkyl)], I ($R_{16}-R_{27} =$ any group given for R_1-R_{15} ; X^- has the same definition as above), and $I^+(C_6R_{28}R_{29}R_{30}R_{31}R_{32})(R_6R_{33}R_{34}R_{35}R_{36}R_{37})X^-$ ($R_{28}-R_{37} =$ any group given for R_1-R_{15} ; X^- has the same definition as above) and (B) a resin which is decomposed with acids to become alkali-soluble and contains ≥ 1 selected from 2 repeating units (Markush structures given) having ≥ 1 silylethoxycarbonyl group.

IT 357193-74-9 357193-75-0

(pos.-working far-UV photoresist compns. containing sulfonium or iodonium fluoroalkanesulfonates as photoacid generators and silylethoxycarbonyl-containing resins)

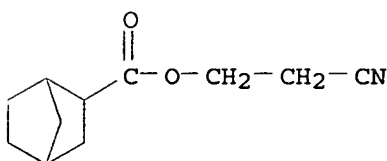
RN 357193-74-9 HCAPLUS

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 2-cyanoethyl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357193-73-8

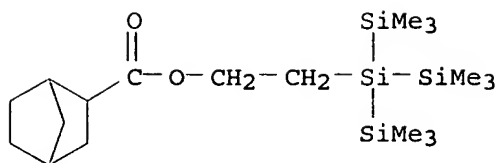
CMF C11 H15 N O2



CM 2

CRN 357193-72-7

CMF C19 H42 O2 Si4



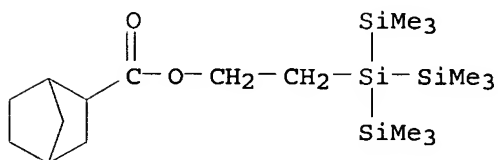
RN 357193-75-0 HCAPLUS

CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid, mono(2-hydroxyethyl) ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357193-72-7

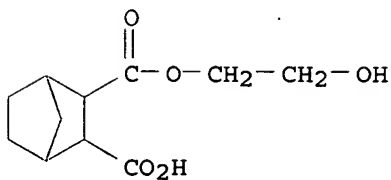
CMF C19 H42 O2 Si4



CM 2

CRN 244258-08-0

CMF C11 H16 O5



IC ICM G03F007-039

ICS C08G061-08; C08K005-42; C08L065-00; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

IT 357193-74-9 357193-75-0 357193-78-3

(pos.-working far-UV photoresist compns. containing sulfonium or iodonium fluoroalkanesulfonates as photoacid generators and silylethoxycarbonyl-containing resins)

L16 ANSWER 20 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:579375 HCAPLUS

DOCUMENT NUMBER: 135:172986

TITLE: Positive-working photoresist composition

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001215707	A2	20010810	JP 2000-28236	2000 0204

PRIORITY APPLN. INFO.: JP 2000-28236
 2000
 0204

AB The title composition contains a radiation or actinic ray-sensitive acid generator, a polysiloxane, and a mixed solvent of propylene glycol monoalkyl ether alkoxylate and the other solvent chosen from alkyl lactate, alkoxyalkyl lactate, γ -butyrolactone, ethylene carbonate, and propylenecarbonate. The polysiloxane resin has repeating unit $[-Si\{-L1-M1-CO_2-(CH_2)_2-Si(R')(R'')(R''')\}O_3/2-]$ (L1 = alkylene, arylene containing carboxylate, amide, or S; M1 = single bond, alkylene, arylene, etc.; R'-''' = alkyl, halo, alkoxy, trialkylsilyl, etc.). The composition, which contains the acid-sensitive resin, provides the improved edge roughness.

IT 353264-80-9P 353264-82-1P 353264-83-2P
 353513-89-0P 353513-91-4P 353513-93-6P
 (pos.-working photoresist composition)

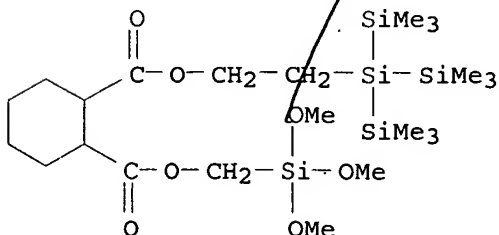
RN 353264-80-9 HCAPLUS

CN 1,2-Cyclohexanedicarboxylic acid, (trimethoxysilyl)methyl
 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester,
 polymer with cyclohexyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 353264-79-6

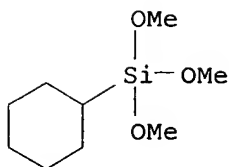
CMF C23 H52 O7 Si5



CM 2

CRN 17865-54-2

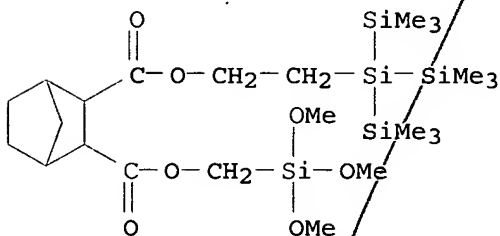
CMF C9 H20 O3 Si



RN 353264-82-1 HCAPLUS
 CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid,
 (trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
 cyclohexyltrimethoxysilane (9CI) (CA INDEX NAME)

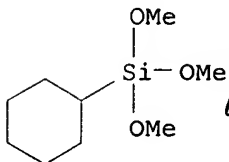
CM 1

CRN 353264-81-0
 CMF C24 H52 O7 Si5



CM 2

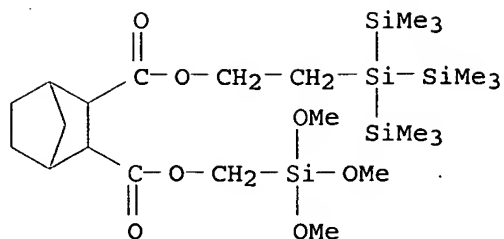
CRN 17865-54-2
 CMF C9 H20 O3 Si



RN 353264-83-2 HCAPLUS
 CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid,
 (trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
 bicyclo[2.2.1]hept-2-yltrimethoxysilane and silicic acid (H4SiO4)
 (9CI) (CA INDEX NAME)

CM 1

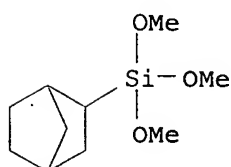
CRN 353264-81-0
 CMF C24 H52 O7 Si5



CM 2

CRN 108196-09-4

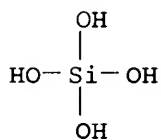
CMF C10 H20 O3 Si



CM 3

CRN 10193-36-9

CMF H4 O4 Si



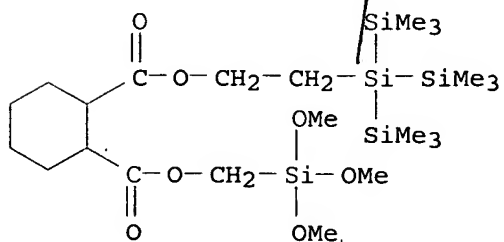
RN 353513-89-0 HCAPLUS

CN 1,2-Cyclohexanedicarboxylic acid, (trimethoxysilyl)methyl
 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester,
 polymer with cyclopentyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

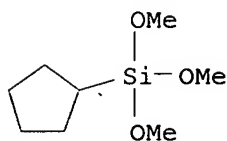
CRN 353264-79-6

CMF C23 H52 O7 Si5



CM 2

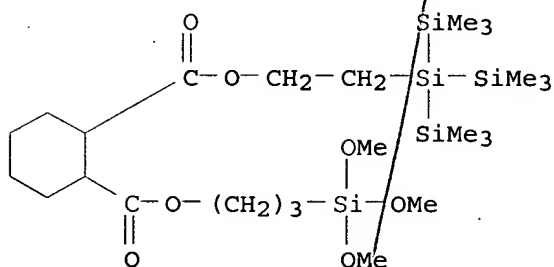
CRN 143487-47-2
 CMF C8 H18 O3 Si



RN 353513-91-4 HCAPLUS
 CN 1,2-Cyclohexanedicarboxylic acid, 3-(trimethoxysilyl)propyl
 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester,
 polymer with cyclopentyltrimethoxysilane and silicic acid (H4SiO4)
 (9CI) (CA INDEX NAME)

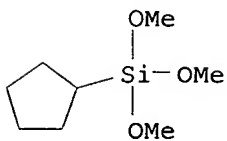
CM 1

CRN 353513-90-3
 CMF C25 H56 O7 Si5



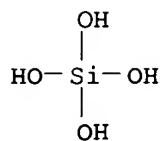
CM 2

CRN 143487-47-2
 CMF C8 H18 O3 Si



CM 3

CRN 10193-36-9
 CMF H4 O4 Si



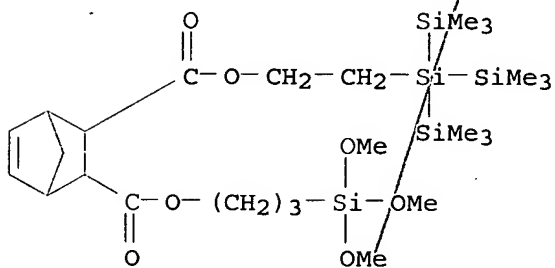
RN 353513-93-6 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid,
3-(trimethoxysilyl)propyl 2-[2,2,2-trimethyl-1,1-
bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
(2-bicyclo[2.2.1]hept-2-ylethyl)trimethoxysilane (9CI) (CA INDEX
NAME)

CM 1

CRN 353513-92-5

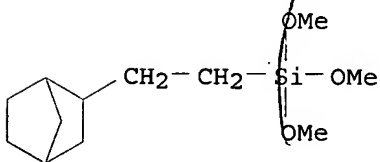
CMF C26 H54 O7 Si5



CM 2

CRN 339997-88-5

CMF C12 H24 O3 Si



IC ICM G03F007-039

ICS G03F007-004; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 76

IT 353264-80-9P 353264-82-1P 353264-83-2P

353264-86-5P 353264-88-7P 353513-89-0P

353513-91-4P 353513-93-6P

(pos.-working photoresist composition)

L16 ANSWER 21 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:579374 HCAPLUS

DOCUMENT NUMBER: 135:160148
 TITLE: Positive-working chemically amplified photoresist composition
 INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001215706	A2	20010810	JP 2000-28104	2000 0204
PRIORITY APPLN. INFO.:			JP 2000-28104	2000 0204

OTHER SOURCE(S): MARPAT 135:160148

AB The title composition contains a photoacid generator and an acid-sensitive polysiloxane, wherein the photoacid generator is triarylsulfonium, sulfide of triarylsulfoniums, or bis arylidonium and wherein the polysiloxane has repeating unit
 $[-Si\{-L1-M1-CO_2-(CH_2)_2-Si(R')(R'')(R''')\}O_{3/2-}]$ (L1 = alkylene, arylene containing carboxylate, amide, or S; M1 = single bond, alkylene, arylene, etc.; R'-''' = alkyl, halo, alkoxy, trialkylsilyl, etc.). The composition, which contains the photoacid generator and the polysiloxane, provides the small variation of line width of a dense line pattern when the exposure light quantity varies.

IT 353264-80-9P 353264-82-1P 353264-83-2P
 353264-84-3P

(acid-sensitive resin in pos.-working chemical amplified photoresist composition)

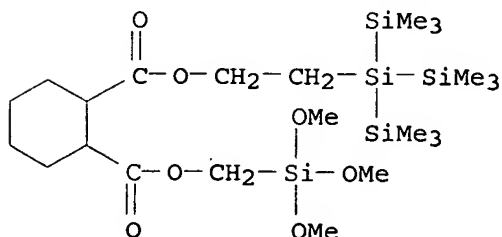
RN 353264-80-9 HCAPLUS

CN 1,2-Cyclohexanedicarboxylic acid, (trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with cyclohexyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 353264-79-6

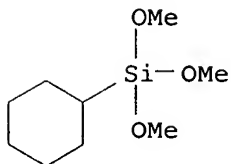
CMF C23 H52 O7 Si5



CM 2

CRN 17865-54-2

CMF C9 H20 O3 Si



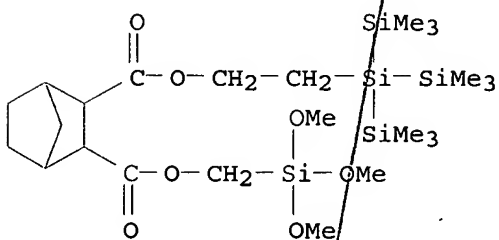
RN 353264-82-1 HCAPLUS

CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid,
(trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-
bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
cyclohexyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 353264-81-0

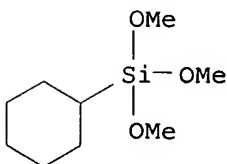
CMF C24 H52 O7 Si5



CM 2

CRN 17865-54-2

CMF C9 H20 O3 Si

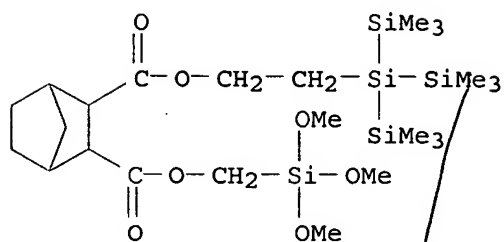


RN 353264-83-2 HCAPLUS

CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid,
(trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-
bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
bicyclo[2.2.1]hept-2-yltrimethoxysilane and silicic acid (H4SiO4)
(9CI) (CA INDEX NAME)

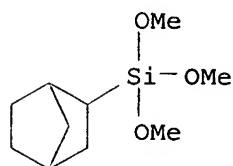
CM 1

CRN 353264-81-0
CMF C24 H52 O7 Si5



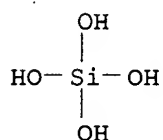
CM 2

CRN 108196-09-4
CMF C10 H20 O3 Si



CM 3

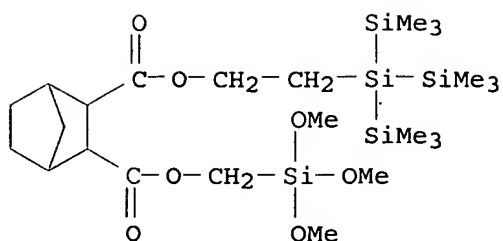
CRN 10193-36-9
CMF H4 O4 Si



RN 353264-81-3 HCAPLUS
CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid,
(trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-
bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
cyclopentyltrimethoxysilane (9CI) (CA INDEX NAME)

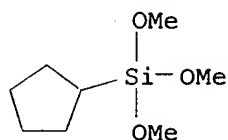
CM 1

CRN 353264-81-0
CMF C24 H52 O7 Si5



CM 2

CRN 143487-47-2
CMF C8 H18 O3 Si



IC ICM G03F007-039
ICS G03F007-004; G03F007-075; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 76
IT 339997-89-6P 353264-80-9P 353264-82-1P
353264-83-2P 353264-84-3P 353264-85-4P
353264-86-5P 353264-88-7P
(acid-sensitive resin in pos.-working chemical amplified
photoresist composition)

L16 ANSWER 22 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:579373 HCAPLUS

DOCUMENT NUMBER: 135:172985

TITLE: Positive-working photoresist composition for
manufacturing electric circuits such as
contact hole pattern formation

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001215705	A2	20010810	JP 2000-28103	2000 0204

PRIORITY APPLN. INFO.:

JP 2000-28103

2000
0204

USHA SHRESTHA EIC 1700 REM 4B28

OTHER SOURCE(S): MARPAT 135:172985

AB The title composition contains a photoacid generator (Rs1)(Rs2)(Rs3)S+ Z- (Rs1-3 = alkyl, aryl; Z- = counter anion) and an acid-sensitive polysiloxane, wherein the polysiloxane has repeating unit [-Si{-L1-M1-CO2-(CH2)2-Si(R')(R'')(R''')}O3/2-] (L1 = alkylene, arylene containing carboxylate, amide, or S; M1 = single bond, alkylene, arylene, etc.; R'-''' = alkyl, halo, alkoxy, trialkylsilyl, etc.). The composition, which contains the aforementioned photoacid generator and the aforementioned acid-sensitive resin, generates little particles in the resist forming solution

IT 353264-80-9P 353264-82-1P 353264-83-2P

353264-84-3P

(pos.-working photoresist composition)

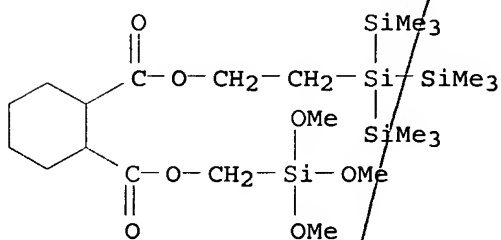
RN 353264-80-9 HCAPLUS

CN 1,2-Cyclohexanedicarboxylic acid, (trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with cyclohexyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 353264-79-6

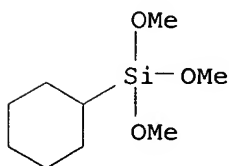
CMF C23 H52 O7 Si5



CM 2

CRN 17865-54-2

CMF C9 H20 O3 Si



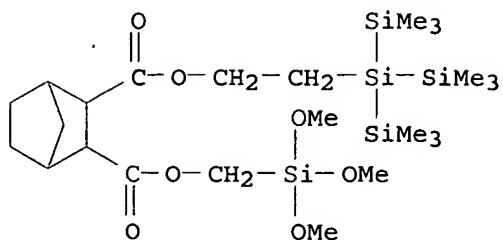
RN 353264-82-1 HCAPLUS

CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid, (trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with cyclohexyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 353264-81-0

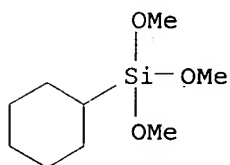
CMF C24 H52 O7 Si5



CM 2

CRN 17865-54-2

CMF C9 H20 O3 Si



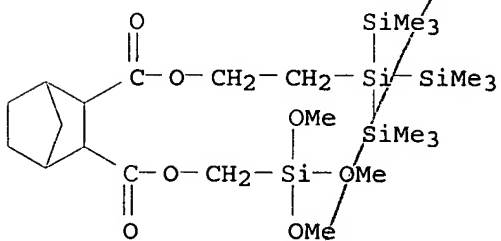
RN 353264-83-2 HCAPLUS

CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid,
 (trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
 bicyclo[2.2.1]hept-2-yltrimethoxysilane and silicic acid (H4SiO4)
 (9CI) (CA INDEX NAME)

CM 1

CRN 353264-81-0

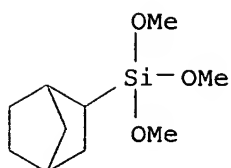
CMF C24 H52 O7 Si5



CM 2

CRN 108196-09-4

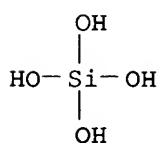
CMF C10 H20 O3 Si



CM 3

CRN 10193-36-9

CMF H4 O4 Si



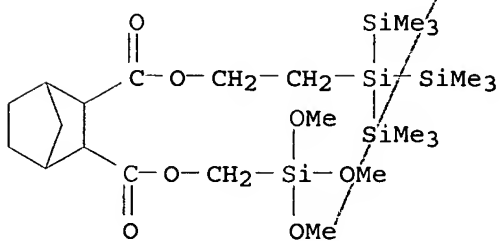
RN 353264-84-3 HCAPLUS

CM Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid,
 (trimethoxysilyl)methyl 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
 cyclopentyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 353264-81-0

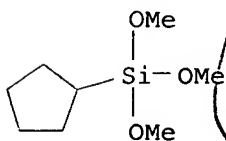
CMF C24 H52 O7 Si5



CM 2

CRN 143487-47-2

CMF C8 H18 O3 Si



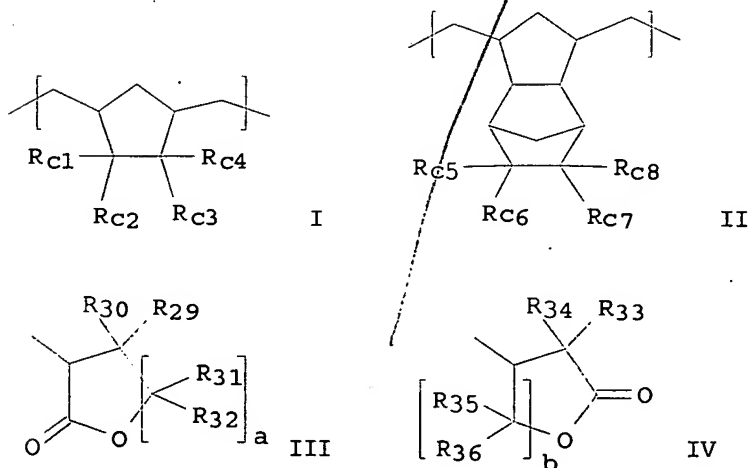
IC ICM G03F007-039

ICS C08L083-04; G03F007-004; G03F007-075; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 76
 IT 339997-89-6P 353264-80-9P 353264-82-1P
 353264-83-2P 353264-84-3P 353264-85-4P
 353264-86-5P 353264-88-7P
 (pos.-working photoresist composition)

L16 ANSWER 23 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:541843 HCAPLUS
 DOCUMENT NUMBER: 135:129573
 TITLE: Deep UV positive photoresist compositions
 containing norbornene- or dicyclopentadiene-
 based polymers
 INVENTOR(S): Mizutani, Kazuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001201855	A2	20010727	JP 2000-8239	2000 0117
PRIORITY APPLN. INFO.:			JP 2000-8239	2000 0117

GI



AB The photoresist compns. contain (A) active light- or

radiation-sensitive acid generators and (B) resins whose solubilities into alkaline solns. are increased by acidolysis and which involve repeating units norbornene derivs. I and/or dicyclopentadiene derivs. II [Rc1-Rc8 = H, (substituted) alkyl, (substituted) cyclohydrocarbyl, halo, cyano, CO₂H, C(O)YARc9, C(O)YACO₂(CH₂)₂SiR₁R₂R₃, CO₂Rc11, CO₂(CH₂)₂SiR₁R₂R₃; ≥1 of Rc1-Rc4 = C(O)YACO₂(CH₂)₂SiR₁R₂R₃ or CO₂(CH₂)₂SiR₁R₂R₃; ≥1 of Rc5-Rc8 = C(O)YACO₂(CH₂)₂SiR₁R₂R₃ or CO₂(CH₂)₂SiR₁R₂R₃; R1-R3 = alkyl, trialkylsilyl, trialkylsilyloxy; Y = O, S, NH, NHSO₂, NHSO₂NH; Rc9 = CO₂H, CO₂Rc10 (Rc10 = same as Rc11 or lactones III or IV), CN, OH, (substituted) alkoxyl, CONHRc11, CONHSO₂Rc11, or lactones III or IV; Rc11 = (substituted) alkyl, (substituted) cycloalkyl; A = single bond; alkylene, substituted alkylene, O, S, CO, CO₂, amide, sulfonamide, urethane, urea; R29-R36 = H, alkyl; a, b = 1, 2]. The compns. may further contain (C) organic bases, (D) silicone-based, F-containing, or nonionic surfactants and (E) organic solvents. In the bilayer resist process, pattern shift on pattern transfer to underlayers while O plasma etching is minimized. Its pattern formation on i-ray resist coated on a Si wafer by exposing to ArF excimer laser was exemplified.

IT 351195-81-8D, hydrogenated 351195-82-9D, hydrogenated

(deep UV pos. photoresist compns. containing norbornene- or dicyclopentadiene-based polymers)

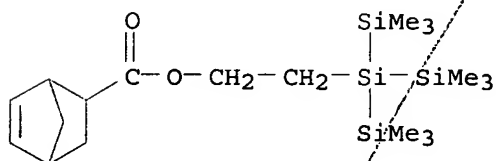
RN 351195-81-8 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-cyanoethyl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

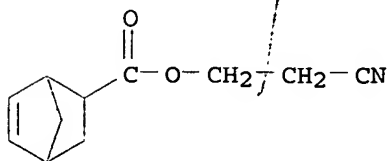
CMF C19 H40 O2 Si4



CM 2

CRN 303154-39-4

CMF C11 H13 N O2



RN 351195-82-9 HCAPLUS

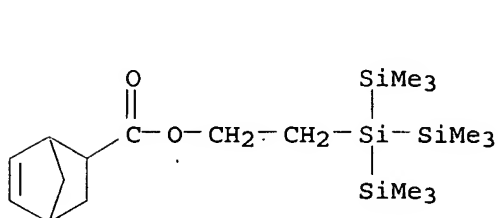
CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid,

mono(2-hydroxyethyl) ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

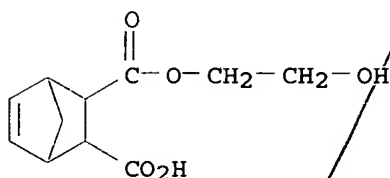
CMF C19 H40 O2 Si4



CM 2

CRN 260065-19-8

CMF C11 H14 O5



IC ICM G03F007-039

ICS G03F007-004; G03F007-095; G03F007-26; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 351195-81-8D, hydrogenated 351195-82-9D, hydrogenated 351195-84-1D, hydrogenated (deep UV pos. photoresist **compns.** containing norbornene- or dicyclopentadiene-based polymers)

L16 ANSWER 24 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:524132 HCAPLUS

DOCUMENT NUMBER: 135:242803

TITLE: Effect of the backbone composition of some polycarbosilanes on their structure and thermal properties

AUTHOR(S): Polikarpov, V. M.; Ushakov, N. V.; Antipov, E. M.

CORPORATE SOURCE: Tambov. Gos. Univ. im. R. G. Derzhavina, Tambov, 392622, Russia

SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A i Seriya B (2000), 42(12), 2111-2122
CODEN: VSSBEE; ISSN: 1023-3091

PUBLISHER: MAIK Nauka/Interperiodica Publishing

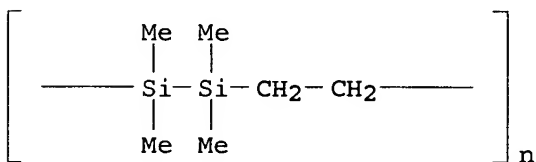
DOCUMENT TYPE: Journal

LANGUAGE: Russian

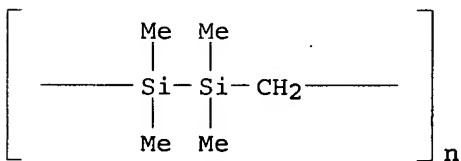
AB A series of newly synthesized poly(organocarbosilanes) with

variable content of silicon and carbon atoms in the backbone were studied by X-ray diffraction, differential scanning calorimetry, and thermomech. techniques. All the studied polymers represent partially crystalline high-mol.-weight compds. capable of forming simple liquid crystalline structures. The samples of uniaxially oriented poly(dimethylsiltrimethylene) with an ultrahigh-mol. weight ($M = 7.6 \times 10^6$) exhibit the phenomenon of one-dimensional diffraction, which is evidence of a considerable fraction of unfolded polymer chains penetrating through the amorphous crystalline matrix in the direction of sample orientation.

IT 74485-88-4 132613-76-4
 (effect of the backbone **composition** of some polycarbosilanes on their structure and thermal properties)
 RN 74485-88-4 HCAPLUS
 CN Poly[(1,1,2,2-tetramethyl-1,2-disilanediy1)-1,2-ethanediy1] (9CI)
 (CA INDEX NAME)



RN 132613-76-4 HCAPLUS
 CN Poly[(1,1,2,2-tetramethyl-1,2-disilanediy1)methylene] (9CI) (CA INDEX NAME)



CC 36-5 (Physical Properties of Synthetic High Polymers)
 Section cross-reference(s): 75
 IT 25722-25-2, Poly[(dimethylsilylene)(methylene)] 25722-29-6,
 Poly[(dimethylsilylene)-1,3-propanediy1] 74485-88-4
 132613-76-4
 (effect of the backbone **composition** of some polycarbosilanes on their structure and thermal properties)

L16 ANSWER 25 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:523649 HCAPLUS
 DOCUMENT NUMBER: 135:114440
 TITLE: Positive-working chemically amplified photoresist composition
 INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001194788	A2	20010719	JP 2000-1895	2000 0107

PRIORITY APPLN. INFO.:

JP 2000-1895

2000
0107

AB The title composition contains the specific arylsulfonium, sulfide of a arylsulfonium, or aryliodonium photoacid generator and an acid-sensitive resin, which increases the solubility towards an alkali reacting with an acid, containing a repeating group chosen from $[-CH_2-C(Y)\{-L-CO_2-(CH_2)_2-Si(R')(R'')(R''')\}-]$ (Y = H, Me, cyano, Cl; L = single bond, 2-valent connecting group; R', R'', R''' = alkyl, Ph, trialkylsilyl, etc.), $[-CH_2-C(Y)(CO_2M_1-Q)-]$ (Y = H, Me, cyano, etc.; M1 = single bond, alkylene, alkylene, etc.; Q = group having specific alicyclic structure), and $[-CH_2-C(Y)\{CO_2-M_2-W\}]$ (Y = H, Me, cyano, etc.; M2 = single bond, alkylene, alkylene, etc.; W = lactone ring). The composition, which contains the photoacid generator and the acid-sensitive resin, provides the improved margin of the exposure.

IT 344575-87-7P 344575-89-9P 344575-91-3P
344575-92-4P 344575-95-7P 344613-98-5P
344614-02-4P 344614-15-9P 344614-19-3P

(acid-sensitive resin in pos.-working chemical amplified photoresist composition)

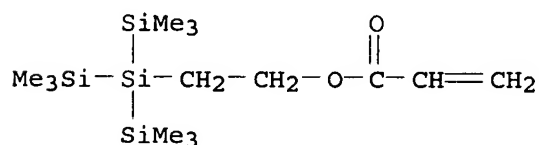
RN 344575-87-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

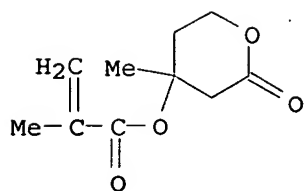
CMF C14 H34 O2 Si4



CM 2

CRN 177080-66-9

CMF C10 H14 O4



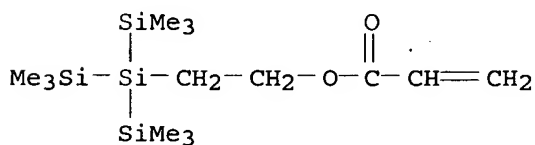
RN 344575-89-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

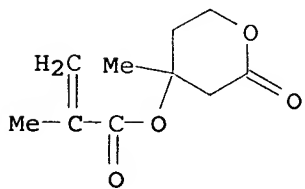
CMF C14 H34 O2 Si4



CM 2

CRN 177080-66-9

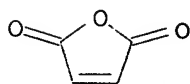
CMF C10 H14 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



RN 344575-91-3 HCAPLUS

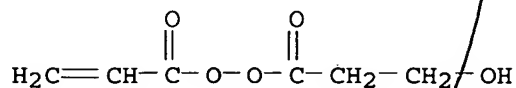
CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 3-oxo-3-[(1-oxo-2-propenyl)dioxy]-1-

propanol and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 344575-90-2

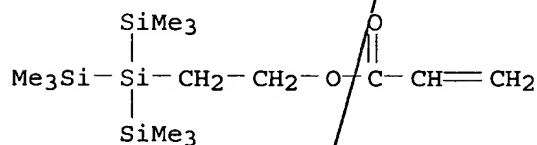
CMF C6 H8 O5



CM 2

CRN 335385-69-8

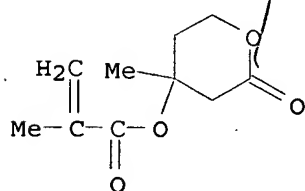
CMF C14 H34 O2 Si4



CM 3

CRN 177080-66-9

CMF C10 H14 O4



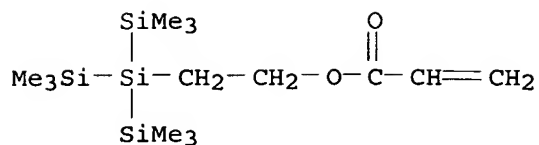
RN 344575-92-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

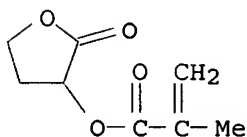
CMF C14 H34 O2 Si4



CM 2

CRN 195000-66-9

CMF C8 H10 O4



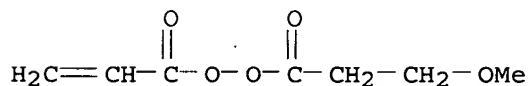
RN 344575-95-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester,
polymer with 3-methoxy-1-oxopropyl 1-oxo-2-propenyl peroxide and
2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 344575-94-6

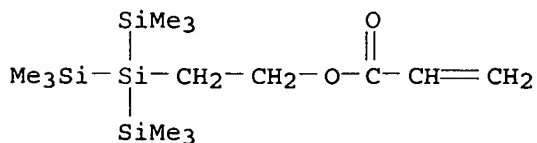
CMF C7 H10 O5



CM 2

CRN 335385-69-8

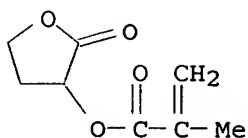
CMF C14 H34 O2 Si4



CM 3

CRN 195000-66-9

CMF C8 H10 O4



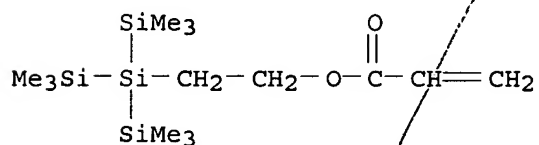
RN 344613-98-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

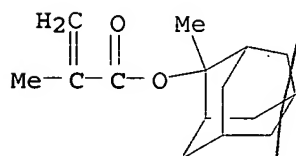
CMF C14 H34 O2 Si4



CM 2

CRN 177080-67-0

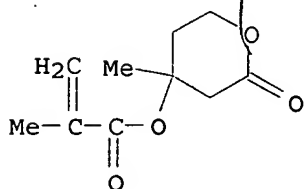
CMF C15 H22 O2



CM 3

CRN 177080-66-9

CMF C10 H14 O4



RN 344614-02-4 HCAPLUS

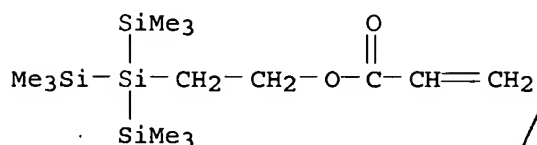
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with

2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and
 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

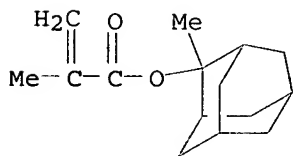
CMF C14 H34 O2 Si4



CM 2

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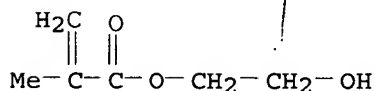
CMF C15 H22 O2



CM 3

CRN 868-77-9

CMF C6 H10 O3



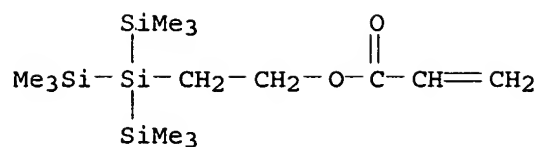
RN 344614-15-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with tetrahydro-2-oxo-3-furanyl
 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX
 NAME)

CM 1

CRN 335385-69-8

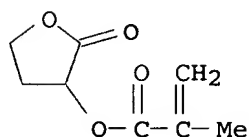
CMF C14 H34 O2 Si4



CM 2

CRN 195000-66-9

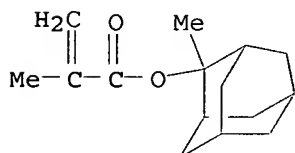
CMF C8 H10 O4



CM 3

CRN 177080-67-0

CMF C15 H22 O2



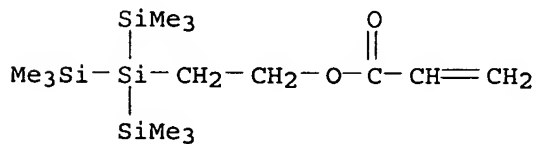
RN 344614-19-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

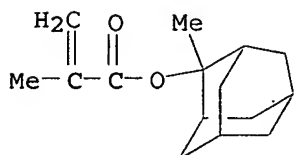
CRN 335385-69-8

CMF C14 H34 O2 Si4



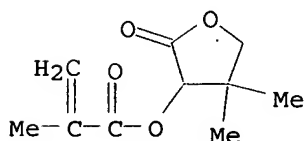
CM 2

CRN 177080-67-0
CMF C15 H22 O2



CM 3

CRN 156938-13-5
CMF C10 H14 O4



IC ICM G03F007-039
ICS C08F220-10; C08F220-42; C08F230-08; C08K005-42; C08L033-04;
C08L043-04; G03F007-004; G03F007-075; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 35, 76
IT 344575-87-7P 344575-88-8P 344575-89-9P
344575-91-3P 344575-92-4P 344575-93-5P
344575-95-7P 344613-98-5P 344614-02-4P
344614-06-8P 344614-11-5P 344614-15-9P
344614-19-3P 344614-24-0P
(acid-sensitive resin in pos.-working chemical amplified
photoresist composition)

L16 ANSWER 26 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STM

ACCESSION NUMBER: 2001:521143 HCAPLUS

DOCUMENT NUMBER: 135:114437

TITLE: Positive-working photoresist composition for
production of electric parts such as
semiconductor substrate with contact holes

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001194789	A2	20010719	JP 2000-1896	2000

PRIORITY APPLN. INFO.:

JP 2000-1896

0107

2000

0107

AB The title composition contains: photoacid generator (Rs1) (Rs2) (Rs3) S+ Z- (Rs1-s3 = alkyl, aryl; Z- = counter anion); an acid-sensitive resin which increases solubility towards an alkali by reacting with an acid; and a solvent, wherein the acid-sensitive resin has repeating unit [-CH₂-C(Y){-L-CO₂-(CH₂)₂-Si(R')(R'')(R''')}-] (Y = H, Me, cyano, etc.; L = single bond, 2-valent connecting group; R', R'', R''' = alkyl, Ph, trialkylsilyl, trialkylsilyloxy) and one of repeating unit chosen from [-CH₂-C(Y){CO₂-M1-Q}-] (Y = H, Me, cyano, etc.; M1 = single bond, alkylene, arylene, ester, etc.; Q = alkyl, allyl, alkyl alkylcarbonyl, ester) and [-CH₂-C(Y){CO₂-M2-W}-] (Y = H, Me, cyano, etc.; M2 = single bond, alkylene, arylene, ester, etc.; W = lactone ring). The composition, which contains the acid-sensitive resin, provides the resist of the high sensitivity and the high resolution and is suitable for use in fabrication of contact holes.

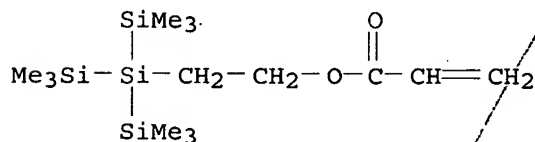
IT 344575-87-7P 344575-89-9P 344575-91-3P
 344575-92-4P 344575-95-7P 344613-98-5P
 344614-02-4P 344614-15-9P 344614-19-3P
 (acid-sensitive resin in pos.-working photoresist compn .)

RN 344575-87-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

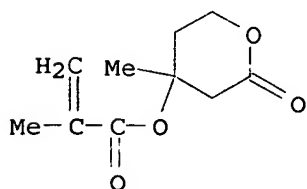
CMF C14 H34 O2 Si4



CM 2

CRN 177080-66-9

CMF C10 H14 O4



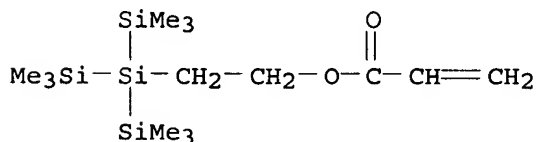
RN 344575-89-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

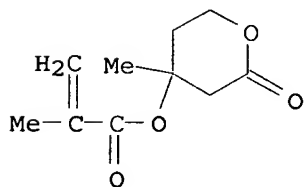
CMF C14 H34 O2 Si4



CM 2

CRN 177080-66-9

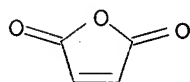
CMF C10 H14 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



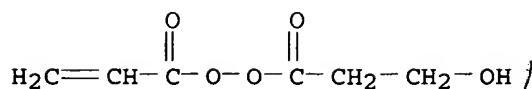
RN 344575-91-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 3-oxo-3-[(1-oxo-2-propenyl)dioxy]-1-propanol and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 344575-90-2

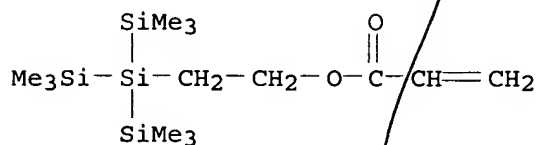
CMF C6 H8 O5



CM 2

CRN 335385-69-8

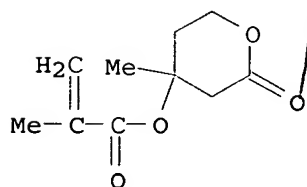
CMF C14 H34 O2 Si4



CM 3

CRN 177080-66-9

CMF C10 H14 O4



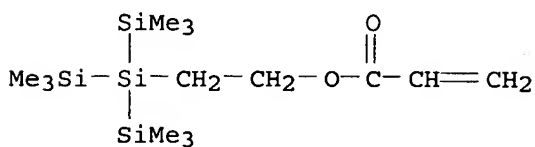
RN 344575-92-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester,
polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]e
thyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

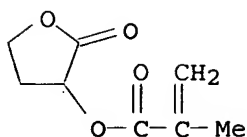
CMF C14 H34 O2 Si4



CM 2

CRN 195000-66-9

CMF C8 H10 O4



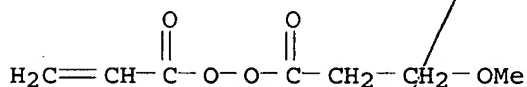
RN 344575-95-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester,
polymer with 3-methoxy-1-oxopropyl 1-oxo-2-propenyl peroxide and
2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 344575-94-6

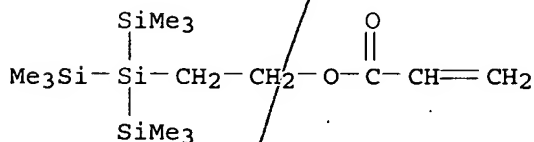
CMF C7 H10 O5



CM 2

CRN 335385-69-8

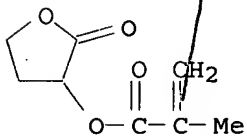
CMF C14 H34 O2 Si4



CM 3

CRN 195000-66-9

CMF C8 H10 O4



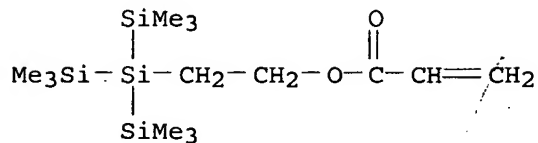
RN 344613-98-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl
ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl
2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-
bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX
NAME)

CM 1

CRN 335385-69-8

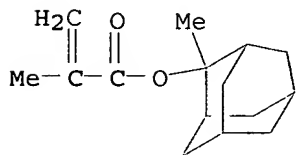
CMF C14 H34 O2 Si4



CM 2

CRN 177080-67-0

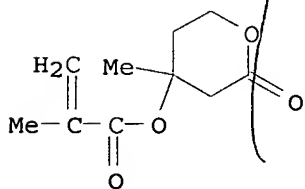
CMF C15 H22 O2



CM 3

CRN 177080-66-9

CMF C10 H14 O4



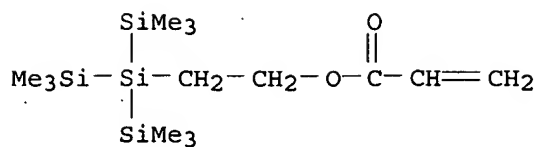
RN 344614-02-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with
 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and
 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

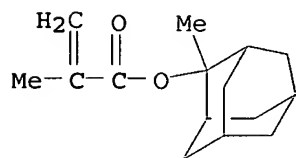
CMF C14 H34 O2 Si4



CM 2

CRN 177080-67-0

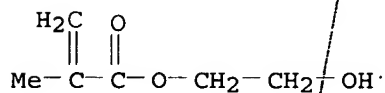
CMF C15 H22 O2



CM 3

CRN 868-77-9

CMF C6 H10 O3



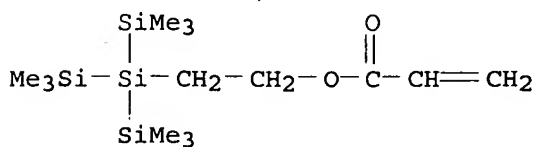
RN 344614-15-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

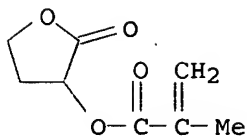
CMF C14 H34 O2 Si4



CM 2

CRN 195000-66-9

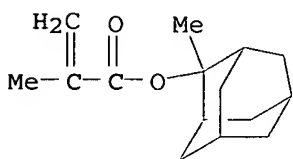
CMF C8 H10 O4



CM 3

CRN 177080-67-0

CMF C15 H22 O2



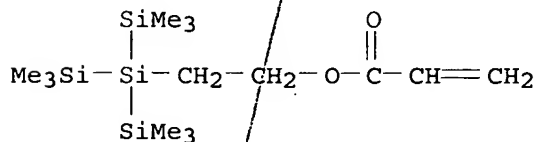
RN 344614-19-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with tetrahydro-4,4-dimethyl-2-oxo-3-furanyl
 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX
 NAME)

CM 1

CRN 335385-69-8

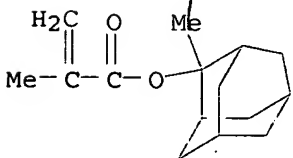
CMF C14 H34 O2 Si4



CM 2

CRN 177080-67-0

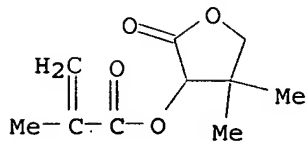
CMF C15 H22 O2



CM 3

CRN 156938-13-5

CMF C10 H14 O4



IC ICM G03F007-039
 ICS C08K005-36; C08L033-00; G03F007-004; G03F007-027;
 G03F007-029; G03F007-075; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 IT 335385-69-8P 344575-87-7P 344575-88-8P
 344575-89-9P 344575-91-3P 344575-92-4P
 344575-93-5P 344575-95-7P 344613-98-5P
 344614-02-4P 344614-06-8P 344614-11-5P
 344614-15-9P 344614-19-3P 344614-24-0P
 (acid-sensitive resin in pos.-working photoresist compn
 .)

L16 ANSWER 27 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:521142 HCAPLUS
 DOCUMENT NUMBER: 135:114436
 TITLE: Positive-working photoresist composition for
 semiconductor device fabrication
 INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001194787	A2	20010719	JP 2000-1894	2000 0107
PRIORITY APPLN. INFO.:				2000 0107

AB The title composition contains: a photoacid generator; an acid-sensitive resin which increases solubility towards an alkali by reacting with an acid; and a mixed solvent. The acid-sensitive resin has repeating unit [-CH₂-C(Y){-L-CO₂-(CH₂)₂-Si(R')(R'')(R''')}-] (Y = H, Me, cyano, etc.; L = single bond, 2-valent connecting group; R', R'', R''' = alkyl, Ph, trialkylsilyl, trialkylsilyloxy) and one of repeating unit chosen from [-CH₂-C(Y){CO₂-M1-Q}-] (Y = H, Me, cyano, etc.; M1 = single bond, alkylene, arylene, ester, etc.; Q = alkyl, allyl, alkyl alkylcarbonyl, ester) and [-CH₂-C(Y){CO₂-M2-W}-] (Y = H, Me,

cyano, etc.; M2 = single bond, alkylene, arylene, ester, etc.; W = lactone ring). The mixed solvent consist of propylene glycol monoalkyl ether alkoxyate and a compound chosen from propylene glycol monoalkyl ether, alkyl lactate, alkoxyalkylpropionate, γ -butyrolactone, ethylene carbonate, propylene carbonate.

The composition, which contains the aforementioned acid-sensitive resin, provides the improved storageability.

IT 344575-87-7P 344575-89-9P 344575-91-3P
 344575-92-4P 344575-95-7P 344613-98-5P
 344614-02-4P 344614-15-9P 344614-19-3P
 (acid-sensitive resin in pos.-working photoresist compn
 .)

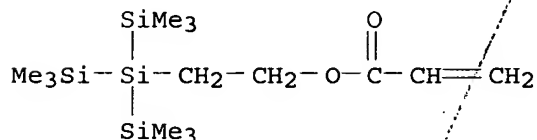
RN 344575-87-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

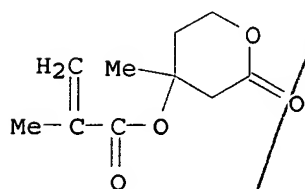
CMF C14 H34 O2 Si4



CM 2

CRN 177080-66-9

CMF C10 H14 O4



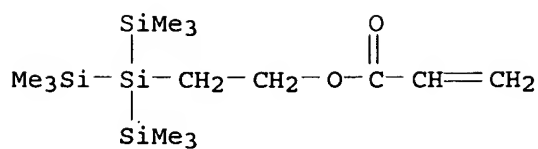
RN 344575-89-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

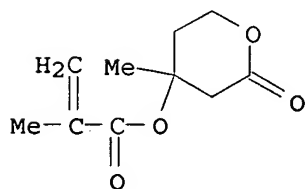
CMF C14 H34 O2 Si4



CM 2

CRN 177080-66-9

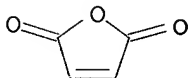
CMF C10 H14 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



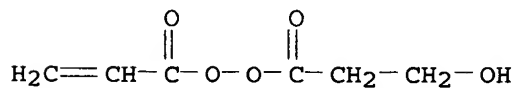
RN 344575-91-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 3-oxo-3-[(1-oxo-2-propenyl)dioxy]-1-propanol and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 344575-90-2

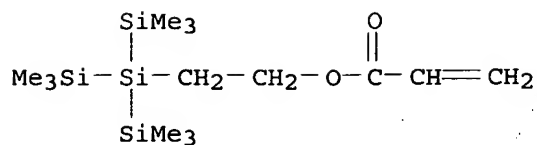
CMF C6 H8 O5



CM 2

CRN 335385-69-8

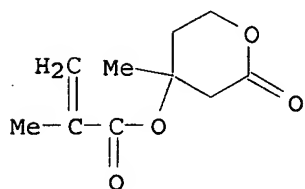
CMF C14 H34 O2 Si4



CM 3

CRN 177080-66-9

CMF C10 H14 O4



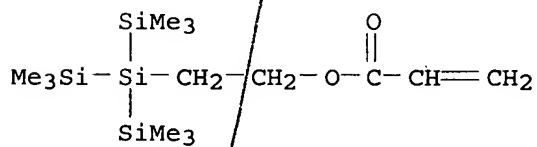
RN 344575-92-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester,
polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]e
thyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

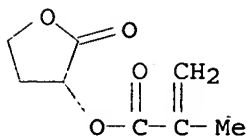
CMF C14 H34 O2 Si4



CM 2

CRN 195000-66-9

CMF C8 H10 O4



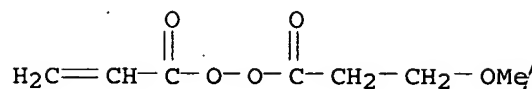
RN 344575-95-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester,
polymer with 3-methoxy-1-oxopropyl 1-oxo-2-propenyl peroxide and
2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 344575-94-6

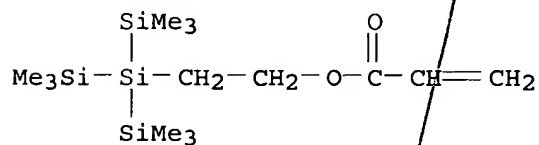
CMF C7 H10 O5



CM 2

CRN 335385-69-8

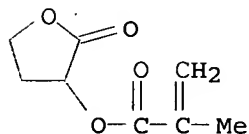
CMF C14 H34 O2 Si4



CM 3

CRN 195000-66-9

CMF C8 H10 O4



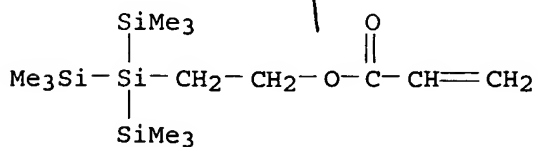
RN 344613-98-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

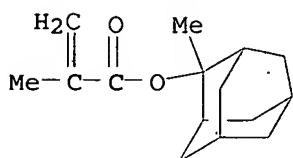
CRN 335385-69-8

CMF C14 H34 O2 Si4



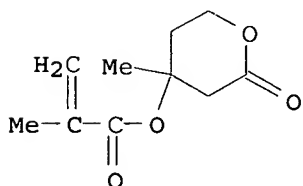
CM 2

CRN 177080-67-0
 CMF C15 H22 O2



CM 3

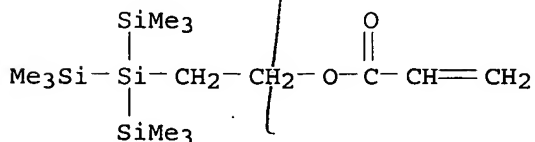
CRN 177080-66-9
 CMF C10 H14 O4



RN 344614-02-4 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with
 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and
 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
 2-propenoate (9CI) (CA INDEX NAME)

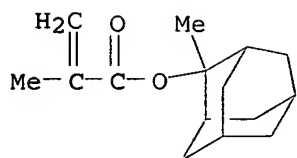
CM 1

CRN 335385-69-8
 CMF C14 H34 O2 Si4



CM 2

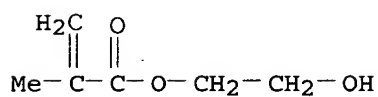
CRN 177080-67-0
 CMF C15 H22 O2



CM 3

CRN 868-77-9

CMF C6 H10 O3



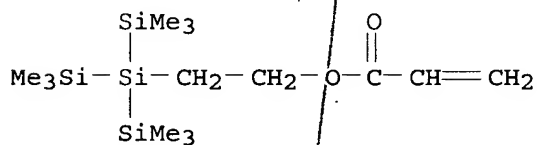
RN 344614-15-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

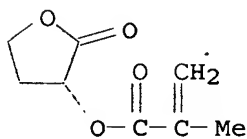
CMF C14 H34 O2 Si4



CM 2

CRN 195000-66-9

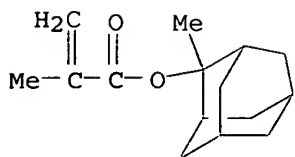
CMF C8 H10 O4



CM 3

CRN 177080-67-0

CMF C15 H22 O2



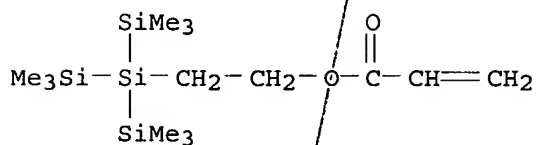
RN 344614-19-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

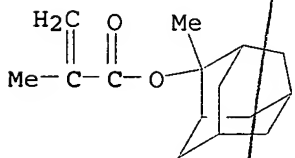
CMF C14 H34 O2 Si4



CM 2

CRN 177080-67-0

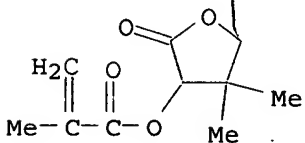
CMF C15 H22 O2



CM 3

CRN 156938-13-5

CMF C10 H14 O4



IC ICM G03F007-039

ICS C08F220-00; C08F230-08; C08K005-00; C08K005-06; C08K005-07;
 C08K005-101; C08K005-109; C08K005-151; C08L043-04;
 G03F007-004; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 76

IT 335385-69-8P 344575-87-7P 344575-88-8P
 344575-89-9P 344575-91-3P 344575-92-4P
 344575-93-5P 344575-95-7P 344613-98-5P
 344614-02-4P 344614-06-8P 344614-11-5P
 344614-15-9P 344614-19-3P 344614-24-0P
 (acid-sensitive resin in pos.-working photoresist compn
 .)

L16 ANSWER 28 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:451207 HCAPLUS

DOCUMENT NUMBER: 135:53508

TITLE: Positive-working photoresist composition

INVENTOR(S): Mizutani, Kazuyoshi; Sato, Kenichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001166486	A2	20010622	JP 1999-350505	1999 1209
PRIORITY APPLN. INFO.:			JP 1999-350505	1999 1209

AB The pos.-working photoresist composition comprises an acid-decomposable polymer, which, increasing the solubility in an alkaline developer upon the interaction with an acid, contains repeating units represented by [H₂CCY{LCOO(CH₂)₂SiR₁R₂R₃}] (Y = H, Me, cyano, Cl; L = single bond, divalent bonding group; R₁-3 = alky, Ph, trialkylsilyl, trialkylsilyloxy) and [H₂CCY(CO₂M₁Q)] (Y = H, Me, cyano, Cl; M₁ = single bond, alkylene, arylene, etc.; Q = substituent containing alicyclic hydrocarbon structure). The pos.-working photoresist composition provided high sensitivity and high resolution, and showed excellent wettability to a developer.

IT 344613-98-5P 344614-02-4P 344614-15-9P
 344614-19-3P

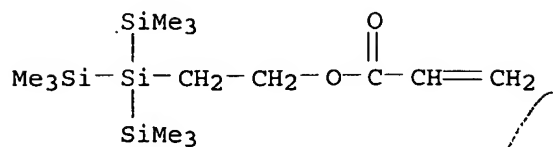
(pos.-working photoresist composition containing polymer with lactone structure)

RN 344613-98-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

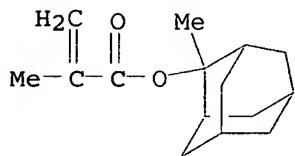
CM 1

CRN 335385-69-8
CMF C14 H34 O2 Si4



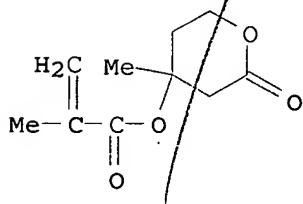
CM 2

CRN 177080-67-0
CMF C15 H22 O2



CM 3

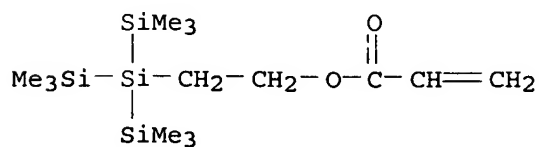
CRN 177080-66-9
CMF C10 H14 O4



RN 344614-02-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with
2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and
2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

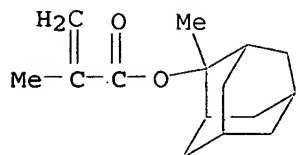
CRN 335385-69-8
CMF C14 H34 O2 Si4



CM 2

CRN 177080-67-0

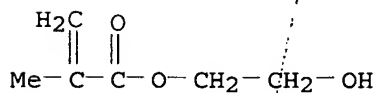
CMF C15 H22 O2



CM 3

CRN 868-77-9

CMF C6 H10 O3



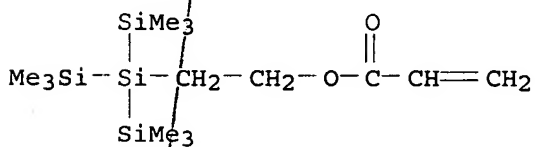
RN 344614-15-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

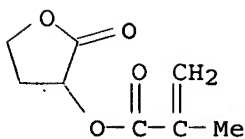
CMF C14 H34 O2 Si4



CM 2

CRN 195000-66-9

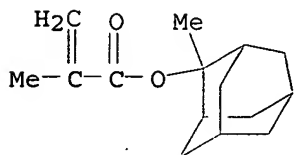
CMF C8 H10 O4



CM 3

CRN 177080-67-0

CMF C15 H22 O2



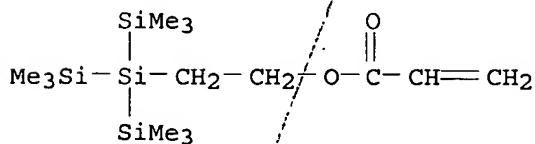
RN 344614-19-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with tetrahydro-4,4-dimethyl-2-oxo-3-furanyl
 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX
 NAME)

CM 1

CRN 335385-69-8

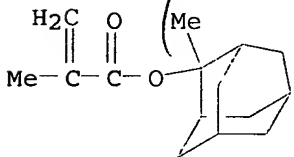
CMF C14 H34 O2 Si4



CM 2

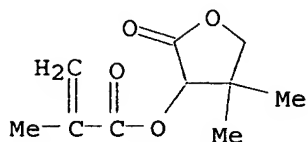
CRN 177080-67-0

CMF C15 H22 O2



CM 3

CRN 156938-13-5
CMF C10 H14 O4



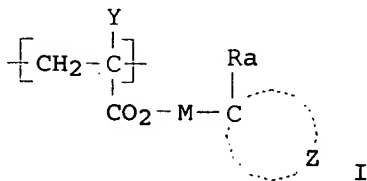
IC ICM G03F007-075
ICS G03F007-039; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
IT 344613-98-5P 344614-02-4P 344614-06-8P
344614-11-5P 344614-15-9P 344614-19-3P
344614-24-0P
(pos.-working photoresist **composition** containing polymer with lactone structure)

L16 ANSWER 29 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:451204 HCAPLUS
DOCUMENT NUMBER: 135:53506
TITLE: Positive-working photoresist composition
INVENTOR(S): Mizutani, Kazuyoshi; Sato, Kenichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001166482	A2	20010622	JP 1999-350506	1999 1209
PRIORITY APPLN. INFO.:				JP 1999-350506 1999 1209

GI



AB The pos.-working photoresist composition comprises an acid-decomposable

polymer, which, increasing the solubility in an alkaline developer upon the interaction with an acid, contains repeating units represented by $[H_2CCY\{LCOO(CH_2)_2SiR_1R_2R_3\}]$ ($Y = H, Me, cyano, Cl$; $L =$ single bond, divalent bonding group; $R_1-3 =$ alky, Ph, trialkylsilyl, trialkylsilyloxy) and I ($M =$ single bond, alkylene, etc.; $R_a = H, alkyl$; $Z =$ atomic group forming lactone structure). The pos.-working photoresist composition provided high sensitivity and high resolution, and showed excellent wettability to a developer.

IT 344575-87-7P 344575-89-9P 344575-91-3P

344575-92-4P 344575-95-7P

(pos.-working photoresist composition containing polymer with lactone structure)

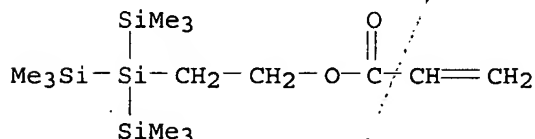
RN 344575-87-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

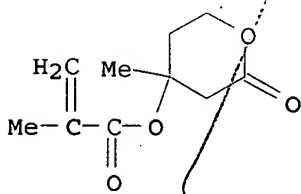
CMF C14 H34 O2 Si4



CM 2

CRN 177080-66-9

CMF C10 H14 O4



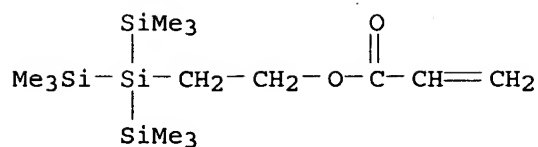
RN 344575-89-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

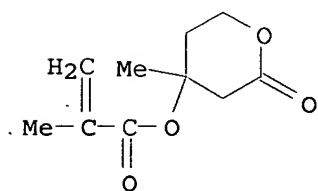
CMF C14 H34 O2 Si4



CM 2

CRN 177080-66-9

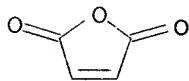
CMF C10 H14 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



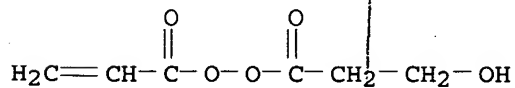
RN 344575-91-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 3-oxo-3-[(1-oxo-2-propenyl)dioxyl]-1-propanol and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 344575-90-2

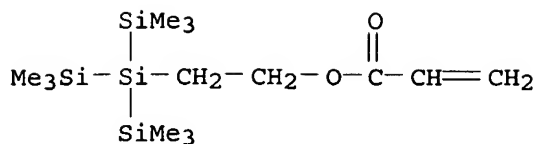
CMF C6 H8 O5



CM 2

CRN 335385-69-8

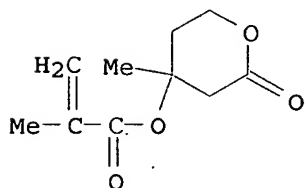
CMF C14 H34 O2 Si4



CM 3

CRN 177080-66-9

CMF C10 H14 O4



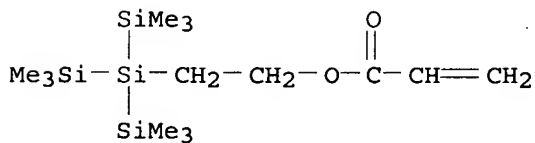
RN 344575-92-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester,
polymer with 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]e
thyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

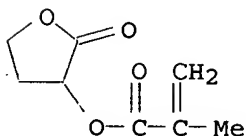
CMF C14 H34 O2 Si4



CM 2

CRN 195000-66-9

CMF C8 H10 O4



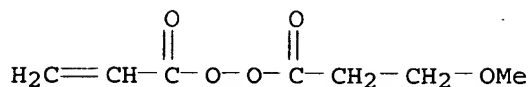
RN 344575-95-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester,
polymer with 3-methoxy-1-oxopropyl 1-oxo-2-propenyl peroxide and
2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 344575-94-6

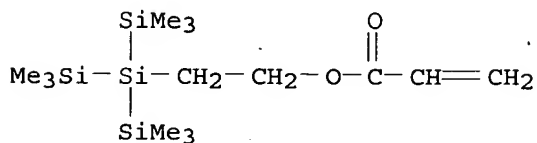
CMF C7 H10 O5



CM 2

CRN 335385-69-8

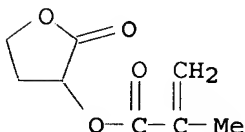
CMF C14 H34 O2 Si4



CM 3

CRN 195000-66-9

CMF C8 H10 O4



IC ICM G03F007-039

ICS C08F220-12; C08F220-26; C08K005-00; C08L033-14; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38

IT 344575-87-7P 344575-88-8P 344575-89-9P

344575-91-3P 344575-92-4P 344575-93-5P

344575-95-7P

(pos.-working photoresist **composition** containing polymer with lactone structure)

L16 ANSWER 30 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:414682 HCAPLUS

DOCUMENT NUMBER: 135:26888

TITLE: Alkali-developable positive-working photoresist composition

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

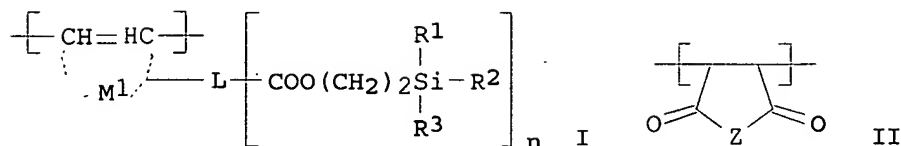
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 71 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: 4 Japanese
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001154361	A2	20010608	JP 1999-338487	1999 1129
TW 564331	B	20031201	TW 2000-89122531	2000 1026
US 6506535	B1	20030114	US 2000-698221	2000 1030
PRIORITY APPLN. INFO.:			JP 1999-307317	A 1999 1028
			JP 1999-331785	A 1999 1122
			JP 1999-338487	A 1999 1129
			JP 1999-343714	A 1999 1202

GI



AB The title composition contains: (A) an actinic ray- or radiation-sensitive acid generator; (B) an acid-sensitive resin becoming alkali soluble; (C) mixed solvents; (D) a basic organic compound; and (E) fluoro- and/or silicone surfactant and a nonionic surfactant. The polymer has repeating units: I (M1 = aliphatic ring residue; n = 1, 2; L = single bond, (n+1) valent connecting group; R', R'', R''' = alkyl, Ph, trialkylsilyl, etc.), and II (Z = O, N-alkyl) or [-CH(COX1-A1R1)-CH(COX2-A2-R2)-] (X1-2 = O, S, -NH-, etc.; A1-2 = single bond, 2-valent connecting group; R1-2 = H, CN, OH, etc.). The mixed solvent consists of propylene glycol monoalkyl ether alkoxylate and one of chosen from group (E) or group (F) where group (E) is propylene glycol monoalkyl ether, alkyl lactate, and alkoxyalkyl propionate and group (F) is γ -butyrolactone, ethylene carbonate, and propylene carbonate. The composition, which contains the copolymer and the mixed

solvent, provides the improved pattern edge roughness.

IT 337954-60-6P 337954-62-8P 337954-64-0P
337954-66-2P 337954-68-4P 337954-71-9P

(polymer in alkali-developable pos.-working photoresist
composition)

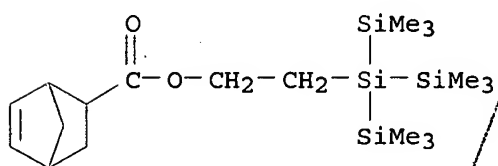
RN 337954-60-6 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with
2,5-furandione and methyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

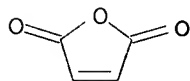
CMF C19 H40 O2 Si4



CM 2

CRN 108-31-6

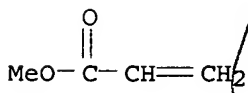
CMF C4 H2 O3



CM 3

CRN 96-33-3

CMF C4 H6 O2



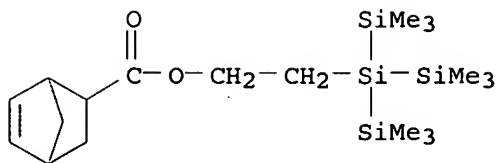
RN 337954-62-8 HCAPLUS

CN 2-Butenedioic acid, mono(1,1-dimethylethyl) ester, polymer with
methyl 2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

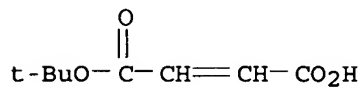
CMF C19 H40 O2 Si4



CM 2

CRN 120515-28-8

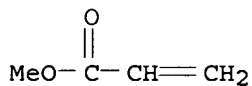
CMF C8 H12 O4



CM 3

CRN 96-33-3

CMF C4 H6 O2



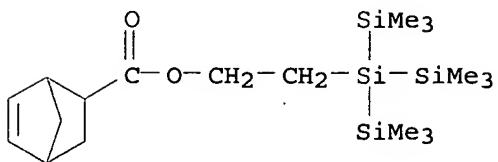
RN 337954-64-0 HCAPLUS

CN 2-Butenedioic acid, monobutyl ester, polymer with 2,5-furandione
and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

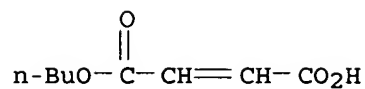
CMF C19 H40 O2 Si4



CM 2

CRN 61537-83-5

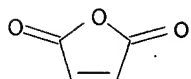
CMF C8 H12 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



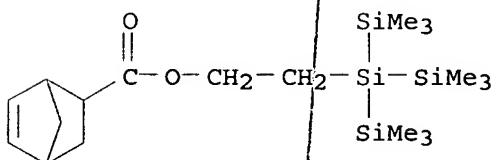
RN 337954-66-2 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

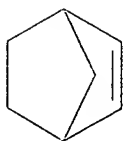
CMF C19 H40 O2 Si4



CM 2

CRN 498-66-8

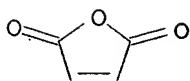
CMF C7 H10



CM 3

CRN 108-31-6

CMF C4 H2 O3



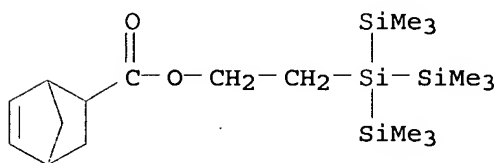
RN 337954-68-4 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, monomethyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

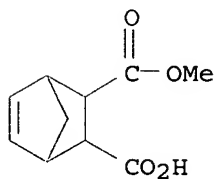
CMF C19 H40 O2 Si4



CM 2

CRN 36897-94-6

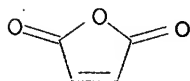
CMF C10 H12 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



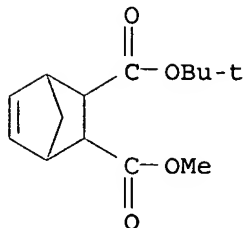
RN 337954-71-9 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, 1,1-dimethylethyl methyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-70-8

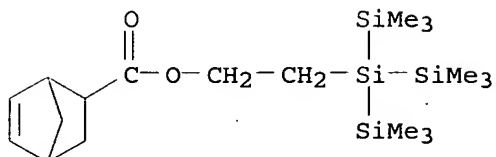
CMF C14 H20 O4



CM 2

CRN 337954-57-1

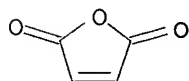
CMF C19 H40 O2 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

ICS C08F222-10; C08F222-38; C08F222-40; C08F232-00; C08K005-00;
C08K005-06; C08K005-07; C08K005-10; C08L043-04; G03F007-004;
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 35, 76

IT 337954-60-6P 337954-62-8P 337954-64-0P

337954-66-2P 337954-68-4P 337954-71-9P

337954-74-2P 337954-76-4P

(polymer in alkali-developable pos.-working photoresist
composition)

L16 ANSWER 31 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:414681 HCAPLUS

DOCUMENT NUMBER: 135:26887

TITLE: Alkali-developable positive-working

photoresist composition
 INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 66 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

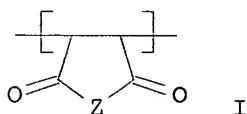
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001154360	A2	20010608	JP 1999-338486	1999 1129

PRIORITY APPLN. INFO.:

JP 1999-338486

1999
1129

GI



AB The title composition contains: (A) an actinic ray- or radiation-sensitive acid generator; (B) an acid-sensitive resin becoming alkali soluble; (C) mixed solvents; (D) a basic organic compound; and (E) fluoro- and/or silicone surfactant and a nonionic surfactant. The polymer has repeating units: $[\text{CH}_2\text{C}(\text{Y})(\text{L}-\text{CO}_2(\text{CH}_2)_2\text{Si}(\text{R}')(\text{R}'')(\text{R}'''))]$ ($\text{Y} = \text{H}, \text{Me}, \text{cyano}, \text{Cl}$; $\text{L} = \text{single bond}, 2\text{-valent bond}$; $\text{R}', \text{R}'', \text{R}''' = \text{alkyl}, \text{Ph}, \text{trialkylsilyl}$, etc.), and I ($\text{Z} = \text{O}, \text{N-alkyl}$) or $[-\text{CH}(\text{COX1-A1R1})-\text{CH}(\text{COX2-A2R2})-]$ ($\text{X1-2} = \text{O}, \text{S}, -\text{NH}-$, etc.; $\text{A1-2} = \text{single bond}, 2\text{-valent connecting group}$; $\text{R1-2} = \text{H}, \text{CN}, \text{OH}$, etc.). The mixed solvent consists of propylene glycol monoalkyl ether alkoxylate and one chosen from group (F) or group (G) where group (F) is propylene glycol monoalkyl ether, alkyl lactate, and alkoxyalkyl propionate and group (G) is γ -butyrolactone, ethylene carbonate, and propylene carbonate. The composition, which contains the copolymer, provides the improved pattern quality of mixed line d. areas.

IT 335385-70-1P 335385-72-3P 340977-48-2P
 340977-50-6P 340977-52-8P 343329-10-2P

(polymer in alkali-developable pos.-working photoresist composition)

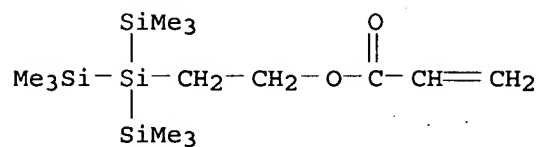
RN 335385-70-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

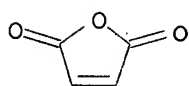
CMF C14 H34 O2 Si4



CM 2

CRN 108-31-6

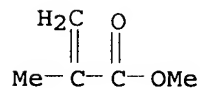
CMF C4 H2 O3



CM 3

CRN 80-62-6

CMF C5 H8 O2



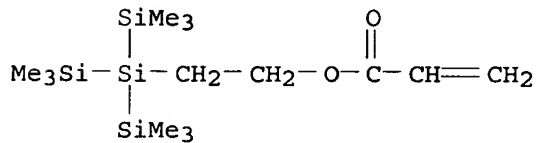
RN 335385-72-3 HCAPLUS

CN 2-Butenedioic acid, monobutyl ester, polymer with 2,5-furandione
and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

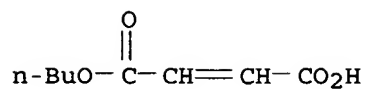
CMF C14 H34 O2 Si4



CM 2

CRN 61537-83-5

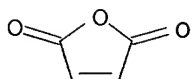
CMF C8 H12 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



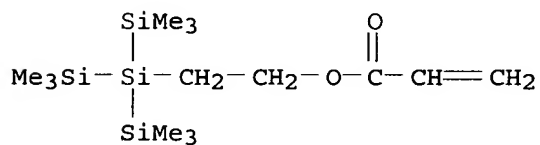
RN 340977-48-2 HCAPLUS

CN 2-Propenoic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

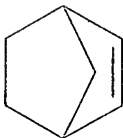
CMF C14 H34 O2 Si4



CM 2

CRN 498-66-8

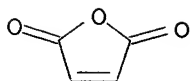
CMF C7 H10



CM 3

CRN 108-31-6

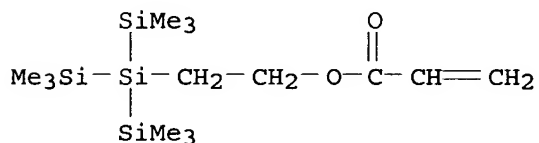
CMF C4 H2 O3



RN 340977-50-6 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, monomethyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

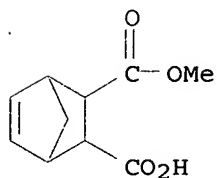
CM 1

CRN 335385-69-8
 CMF C14 H34 O2 Si4



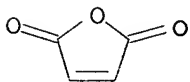
CM 2

CRN 36897-94-6
 CMF C10 H12 O4



CM 3

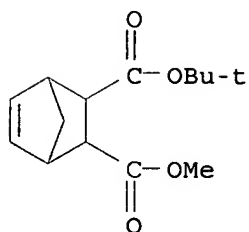
CRN 108-31-6
 CMF C4 H2 O3



RN 340977-52-8 HCAPLUS
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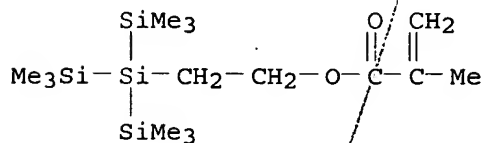
CM 1

CRN 337954-70-8
CMF C14 H20 O4



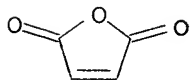
CM 2

CRN 211369-53-8
CMF C15 H36 O2 Si4



CM 3

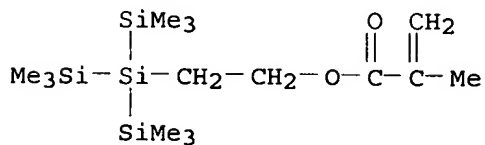
CRN 108-31-6
CMF C4 H2 O3



RN 343329-10-2 HCAPLUS
CN 2-Butenedioic acid, mono(1,1-dimethylethyl) ester, polymer with methyl 2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

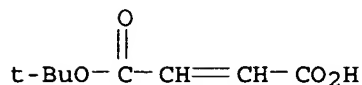
CRN 211369-53-8
CMF C15 H36 O2 Si4



CM 2

CRN 120515-28-8

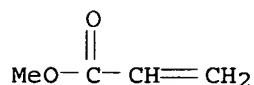
CMF C8 H12 O4



CM 3

CRN 96-33-3

CMF C4 H6 O2



IC ICM G03F007-039

ICS C08F222-06; C08F222-10; C08F222-38; C08F222-40; C08F230-08;
C08F232-00; C08K005-00; C08L043-04; G03F007-004; G03F007-075;
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 35

IT 335385-70-1P 335385-72-3P 335385-77-8P
340977-48-2P 340977-50-6P 340977-52-8P
340977-54-0P 343329-10-2P

(polymer in alkali-developable pos.-working photoresist
composition)

L16 ANSWER 32 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:388948 HCAPLUS

DOCUMENT NUMBER: 135:12122

TITLE: Positive-working photoresist composition
containing sulfonium compound acid generator

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 65 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001147536	A2	20010529	JP 1999-331785	1999 1122
TW 564331	B	20031201	TW 2000-89122531	2000 1026

US 6506535

B1

20030114

US 2000-698221

2000
1030

PRIORITY APPLN. INFO.:

JP 1999-307317

A

1999
1028

JP 1999-331785

A

1999
1122

JP 1999-338487

A

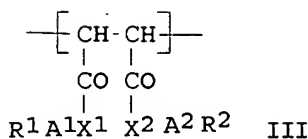
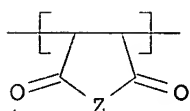
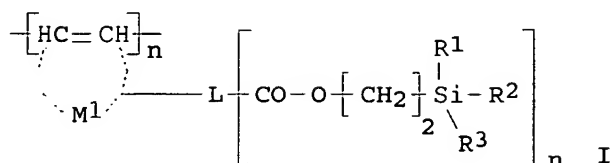
1999
1129

JP 1999-343714

A

1999
1202OTHER SOURCE(S):
GI

MARPAT 135:12122



AB The composition comprises (A) a sulfonium compound $\text{R}^1\text{R}^2\text{R}^3\text{S}^+\text{Z}^-$ [$\text{R}^1\text{-3}$ = (substituted) alkyl, (substituted) aryl; Z^- = counter anion] which generates an acid by the action of the actinic ray or radiation, (B) an acid-decomposable resin having repeating units I (M1 = atoms forming alicyclic structure; $n = 1, 2$; L = bond, linkage with $(n + 1)$ valences; $\text{R}^1, \text{R}^2, \text{R}^3$ = alkyl, Ph, trialkylsilyl, trialkylsilyloxy) and ≥ 1 of II and III (Z = O, NR^3 ; R^3 = H, alkyl, OSO_2R^4 ; R^4 = alkyl, trihalomethyl; X1-2 = H, S, NH, NHSO_2 ; A1-2 = bond, divalent linkage; R1-2 = H, CN, OH, CO_2H , CO_2R^5 , CONHR^6 , alkyl, alkoxy, cyclic hydrocarbon which may have ester or carbonyl group in ring-forming bond; R^5 = alkyl, cyclic hydrocarbon which may have ester or carbonyl group in ring-forming bond; R^6 = alkyl), (C) ≥ 1 solvent dissolving (A) and (B), (D) an organic base compound, and (E) ≥ 1 surfactant selected from F-, Si-, and nonionic surfactant. Particle generation in the resist solution is prevented, the composition shows high sensitivity and resolution and is useful for manufacture of contact hole patterns in semiconductor device fabrication.

IT 337954-60-6P

(photoresist composition containing sulfonium compound acid

generator, acid-decomposable polymer, basic compound and surfactant)

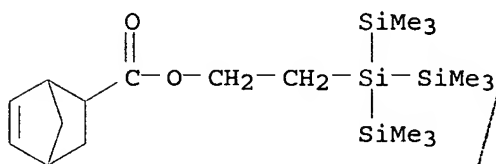
RN 337954-60-6 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with 2,5-furandione and methyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

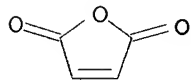
CMF C19 H40 O2 Si4



CM 2

CRN 108-31-6

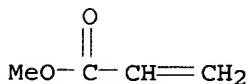
CMF C4 H2 O3



CM 3

CRN 96-33-3

CMF C4 H6 O2



IT 337954-62-8 337954-64-0 337954-66-2

337954-68-4 337954-71-9

(photoresist composition containing sulfonium compound acid generator, acid-decomposable polymer, basic compound and surfactant)

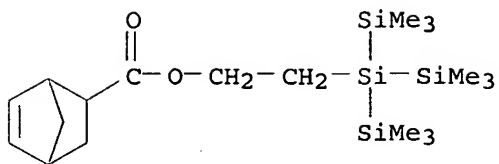
RN 337954-62-8 HCAPLUS

CN 2-Butenedioic acid, mono(1,1-dimethylethyl) ester, polymer with methyl 2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

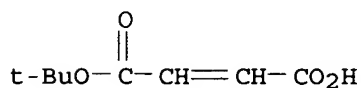
CMF C19 H40 O2 Si4



CM 2

CRN 120515-28-8

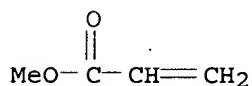
CMF C8 H12 O4



CM 3

CRN 96-33-3

CMF C4 H6 O2



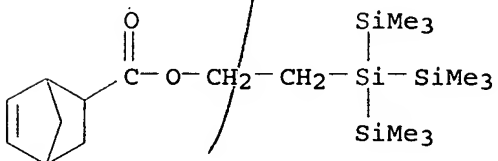
RN 337954-64-0 HCAPLUS

CN 2-Butenedioic acid, monobutyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

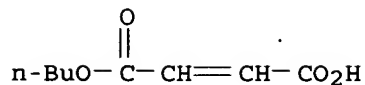
CMF C19 H40 O2 Si4



CM 2

CRN 61537-83-5

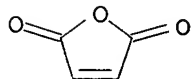
CMF C8 H12 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



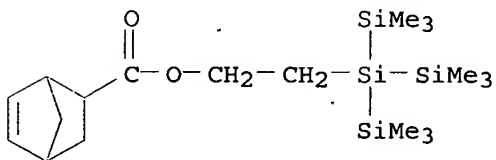
RN 337954-66-2 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 337954-57-1

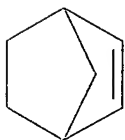
CMF C19 H40 O2 Si4



CM 2

CRN 498-66-8

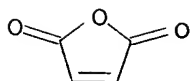
CMF C7 H10



CM 3

CRN 108-31-6

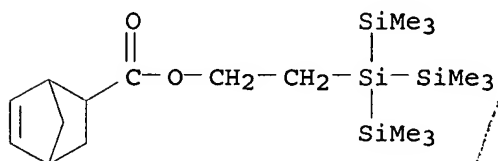
CMF C4 H2 O3



RN 337954-68-4 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, monomethyl ester,
 polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-
 bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-
 carboxylate (9CI) (CA INDEX NAME)

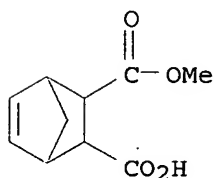
CM 1

CRN 337954-57-1
 CMF C19 H40 O2 Si4



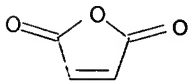
CM 2

CRN 36897-94-6
 CMF C10 H12 O4



CM 3

CRN 108-31-6
 CMF C4 H2 O3

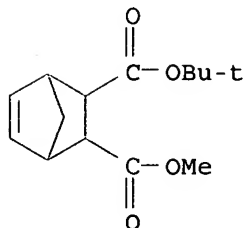


RN 337954-71-9 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, 1,1-dimethylethyl
 methyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-
 1,1-bis(trimethylsilyl)disilanyl]ethyl bicyclo[2.2.1]hept-5-ene-2-
 carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 337954-70-8

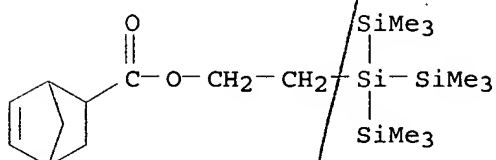
CMF C14 H20 O4



CM 2

CRN 337954-57-1

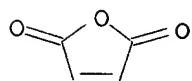
CMF C19 H40 O2 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

ICS C08F222-02; C08F222-06; C08F222-40; C08F232-08; C08K005-103;
C08K005-16; C08K005-36; C08L035-00; C08L045-00; C08L071-02;
G03F007-004; H01L021-027; C07C381-12

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s) : 38, 76

IT 337954-60-6P

(photoresist **composition** containing sulfonium compound acid generator, acid-decomposable polymer, basic compound and surfactant)

IT 337954-62-8 337954-64-0 337954-66-2

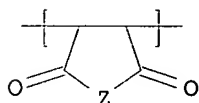
337954-68-4 337954-71-9 337954-74-2

337954-76-4

(photoresist **composition** containing sulfonium compound acid generator, acid-decomposable polymer, basic compound and surfactant)

L16 ANSWER 33 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:377066 HCAPLUS
 DOCUMENT NUMBER: 135:12108
 TITLE: Positive-working photoresist composition
 containing binder resin having specific
 repeating units for contact hole fabrication
 INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001142220	A2	20010525	JP 1999-322950	1999 1112
PRIORITY APPLN. INFO.:			JP 1999-322950	1999 1112
OTHER SOURCE(S):		MARPAT 135:12108		
GI				



I

AB The title pos.-working photoresist composition contains an actinic ray- or radiation-sensitive acid generator made of sulfonium salts; an acid-sensitive resin increasing the solubility towards an alkali by reacting with an acid; solvents, a basic organic compound, and a surfactant chosen from fluoro-, silicone, and nonion surfactants, wherein the resin has repeating unit $[-CH_2-C(Y)(L-CO_2CH_2CH_2-Si(R_1)(R_2)(R_3))]-$ ($Y = H, n, CN, Cl$; $R_1-3 = \text{alkyl, Ph, trialkylsilyl, trialkylsilyloxy}$) and one of repeating unit I ($Z = O, N-R_4$; $R_4 = H, OH, \text{alkyl, etc.}$) and $[-CH(COX_1-A_1-R_5)-CH(COX_2-A_2-R_6)-]$ ($X_1-2 = O, S, -NH-, -NHSO_2-$; $A_1-2 = \text{connecting group}$; $R_5-6 = H, CN, OH, -COOH, \text{etc.}$). The photoresist composition, which contains the binder resin having specific repeating units, provides the improved sensitivity and the resolution suitable for contact hole fabrication.

IT 335385-70-1P 335385-72-3P 340977-46-0P
 340977-48-2P 340977-50-6P 340977-52-8P
 (pos.-working photoresist composition for contact hole fabrication)

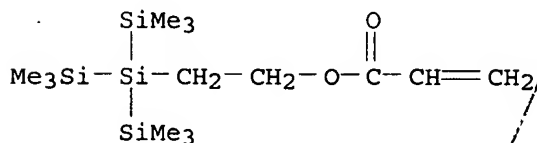
RN 335385-70-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

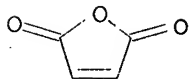
CMF C14 H34 O2 Si4



CM 2

CRN 108-31-6

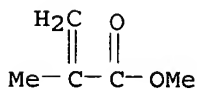
CMF C4 H2 O3



CM 3

CRN 80-62-6

CMF C5 H8 O2



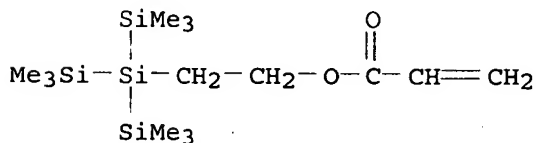
RN 335385-72-3 HCAPLUS

CN 2-Butenedioic acid, monobutyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

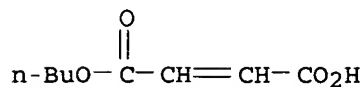
CMF C14 H34 O2 Si4



CM 2

CRN 61537-83-5

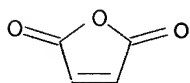
CMF C8 H12 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



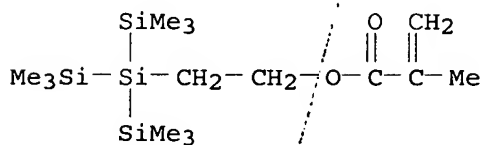
RN 340977-46-0 HCAPLUS

CN 2-Butenedioic acid, mono(1,1-dimethylethyl) ester, polymer with methyl 2-methyl-2-propenoate and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 211369-53-8

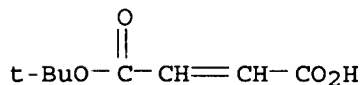
CMF C15 H36 O2 Si4



CM 2

CRN 120515-28-8

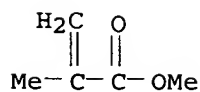
CMF C8 H12 O4



CM 3

CRN 80-62-6

CMF C5 H8 O2



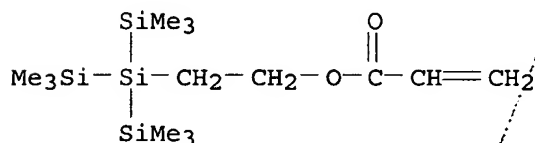
RN 340977-48-2 HCAPLUS

CN 2-Propenoic acid, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

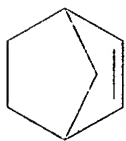
CMF C14 H34 O2 Si4



CM 2

CRN 498-66-8

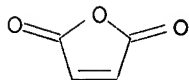
CMF C7 H10



CM 3

CRN 108-31-6

CMF C4 H2 O3



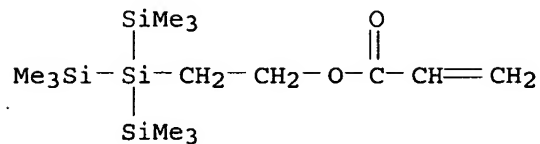
RN 340977-50-6 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, monomethyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 335385-69-8

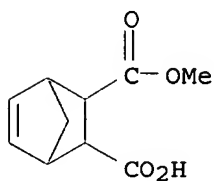
CMF C14 H34 O2 Si4



CM 2

CRN 36897-94-6

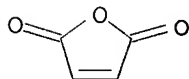
CMF C10 H12 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



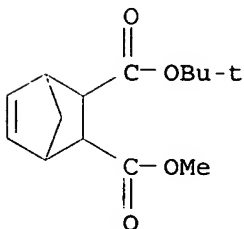
RN 340977-52-8 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, 1,1-dimethylethyl methyl ester, polymer with 2,5-furandione and 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 337954-70-8

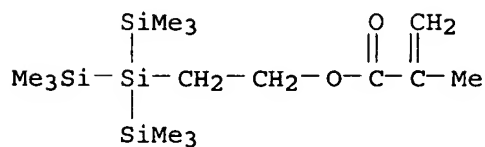
CMF C14 H20 O4



CM 2

CRN 211369-53-8

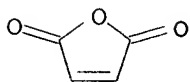
CMF C15 H36 O2 Si4



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-075
 ICS G03F007-004; G03F007-039; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 76
 IT 335385-70-1P 335385-72-3P 335385-77-8P
 340977-46-0P 340977-48-2P 340977-50-6P
 340977-52-8P 340977-54-0P
 (pos.-working photoresist composition for contact hole
 fabrication)
 L16 ANSWER 34 OF 45 HCAPLUS COPYRIGHT/2005 ACS on STN
 ACCESSION NUMBER: 2001:192072 HCAPLUS
 DOCUMENT NUMBER: 134:238693
 TITLE: Thermoplastic/olefin elastomer compositions
 with good sliding properties
 INVENTOR(S): Okuda, Harukazu; Ohata, Hiroyuki
 PATENT ASSIGNEE(S): Nisshin Kagaku Kogyo K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001072808	A2	20010321	JP 1999-248988	1999 0902
PRIORITY APPLN. INFO.:				1999 0902
				JP 1999-248988

AB The compns., useful for sliding parts, contain 0.1-50 phr acrylic-modified polysiloxanes prepared by graft polymerization of a (5-95):(95-5) mixture of (a) $Z1O(SiR1R2O)_m(SiR3YO)_nZ2$ [$R1-R3 = C1-20$ (halogenated) hydrocarbyl; $Y =$ monovalent radically reactive group, SH-containing monovalent organic group; $Z1, Z2 = H$, lower alkyl, $SiR4R5R6$; $R4, R5 = C1-20$ (halogenated) hydrocarbyl; $R6 = C1-20$ (halogenated) hydrocarbyl, $Y; m \leq 10,000; n \geq 1$] and (b) $H2C:CR7CO2R8$ ($R7 = H, Me; R8 =$ (alkoxy-substituted) alkyl; cycloalkyl, aryl) or mixts. thereof. Thus, an emulsion prepared by reaction of mercaptopropylmethylsiloxane and octamethylcyclotetrasiloxane was graft polymerized with Et acrylate, Me methacrylate, and 2-hydroxyethyl methacrylate to give an acrylic-modified polysiloxane, 20 parts of which was kneaded with 100 parts Santoprene 101-73 (polypropylene-EPDM thermoplastic rubber) and injection-molded to give a test piece with static friction coefficient 0.5, dynamic friction coefficient 0.3, and no surface tackiness.

IT 330578-06-8P 330578-07-9P
(thermoplastic olefin elastomer compns. with good sliding properties)

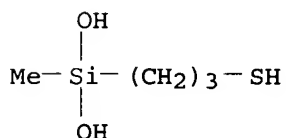
RN 330578-06-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethyl 2-propenoate, (3-mercaptopropyl)methylsilanediol, methyl 2-methyl-2-propenoate and octamethylcyclotetrasilane, graft (9CI)
(CA INDEX NAME)

CM 1

CRN 156730-90-4

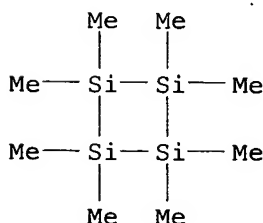
CMF C4 H12 O2 S Si



CM 2

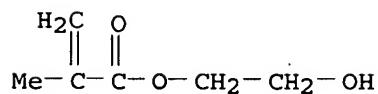
CRN 38041-04-2

CMF C8 H24 Si4



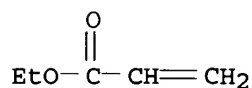
CM 3

CRN 868-77-9
CMF C6 H10 O3



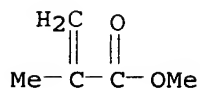
CM 4

CRN 140-88-5
CMF C5 H8 O2



CM 5

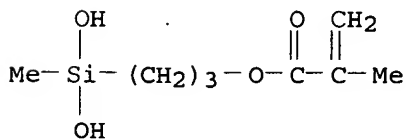
CRN 80-62-6
CMF C5 H8 O2



RN 330578-07-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-(dihydroxymethylsilyl)propyl ester, polymer with 2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate and octamethylcyclotetrasilane, graft (9CI) (CA INDEX NAME)

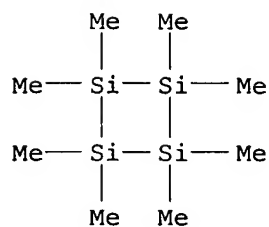
CM 1

CRN 156787-79-0
CMF C8 H16 O4 Si



CM 2

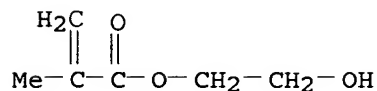
CRN 38041-04-2
CMF C8 H24 Si4



CM 3

CRN 868-77-9

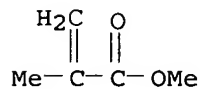
CMF C6 H10 O3



CM 4

CRN 80-62-6

CMF C5 H8 O2



IT 330578-04-6P, Mercaptopropylmethylsilanediol-octamethylcyclotetrasilane copolymer 330578-05-7P
(thermoplastic olefin elastomer compns. with good sliding properties)

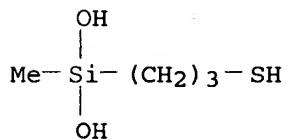
RN 330578-04-6 HCAPLUS

CN Silanediol, (3-mercaptopropyl)methyl-, polymer with octamethylcyclotetrasilane (9CI) (CA INDEX NAME)

CM 1

CRN 156730-90-4

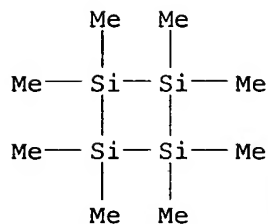
CMF C4 H12 O2 S Si



CM 2

CRN 38041-04-2

CMF C8 H24 Si4



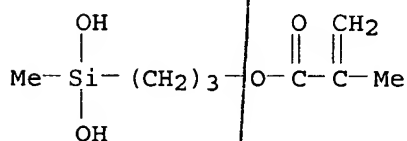
RN 330578-05-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(dihydroxymethylsilyl)propyl ester, polymer with octamethylcyclotetrasilane (9CI) (CA INDEX NAME)

CM 1

CRN 156787-79-0

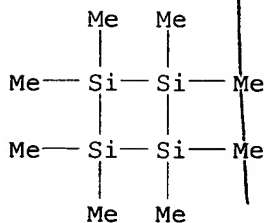
CMF C8 H16 O4 Si



CM 2

CRN 38041-04-2

CMF C8 H24 Si4



IC ICM C08L023-00

ICS C08L023-00; C08L051-08

CC 39-9 (Synthetic Elastomers and Natural Rubber)

IT 330578-06-8P 330578-07-9P

(thermoplastic olefin elastomer compns. with good sliding properties)

IT 330578-04-6P, Mercaptopropylmethylsilanediol-octamethylcyclotetrasilane copolymer 330578-05-7P

(thermoplastic olefin elastomer compns. with good sliding properties)

L16 ANSWER 35 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:143712 HCAPLUS

DOCUMENT NUMBER: 134:179709
 TITLE: ~~Crosslinkable silicon polymer~~ compositions and plasma-etchable ~~antireflective films~~ with good abrasion resistance and strength for resists
 INVENTOR(S): Mori, Shigeru; Hamada, Yoshitaka; Tabei, Eiichi
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001055512	A2	20010227	JP 1999-231969	1999 0818
JP 3562569	B2	20040908	JP 1999-231969	1999 0818

PRIORITY APPLN. INFO.: JP 1999-231969

AB The compns. contain (a) Si polymers (Mw 500-500,000) having Si-Si bond and ≥ 2 Si-H group, (b) HC.tplbond.CAC.tplbond.C(SiR1R2 C.tplbond.CAC.tplbond.C)nH or (YC.tplbond.CAC.tplbond.C)3-aSi(R3)a(Q)bSi(R3)c(C.tplbond.CAC.tplbond.CY)3-c [A = (un)substituted phenylene; R1, R2 = H, alkyl, alkenyl, alkynyl, aryl, alkoxy, amino, C.tplbond.CAC.tplbond.CH; Y = H, [SiR1R2(Q)bSiR1R2C.tplbond.CAC.tplbond.C]nH; Q = O, (CH2)m, (un)substituted phenylene; R3 = H, alkyl, alkenyl, alkynyl, aryl, alkoxy; n = 1-10; m = 0-6; a, c = 0, 1, 2; b = 0, 1], and (c) hydrosilylation catalysts. Thus, a composition containing [(MePhSi)2(MeHSi)2(Me2Si)2]n (Mn 2470, Mw 5330) 100, (p-HC.tplbond.CC6H4C.tplbond.C)2SiPhH 20, and BTTB 25 (peroxy benzophenone) 20 parts was spin-coated and cured to give a film showing pencil hardness 5H and no solubility in toluene.

IT 326856-31-9P
 (crosslinkable polysilane compns. for plasma-etchable antireflective films for resists)

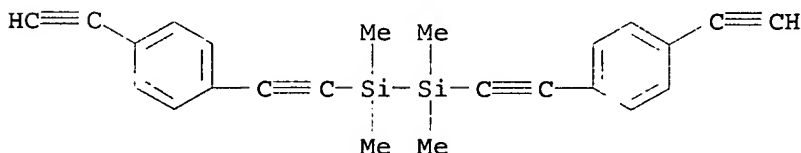
RN 326856-31-9 HCAPLUS

CN Disilane, 1,2-bis[(4-ethynylphenyl)ethynyl]-1,1,2,2-tetramethyl-, polymer with dichlorodimethylsilane, dichloromethylphenylsilane and dichloromethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 326856-30-8

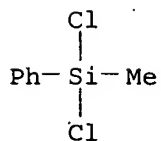
CMF C24 H22 Si2



CM 2

CRN 149-74-6

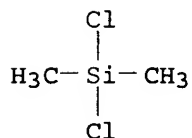
CMF C7 H8 Cl2 Si



CM 3

CRN 75-78-5

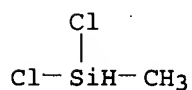
CMF C2 H6 Cl2 Si



CM 4

CRN 75-54-7

CMF C H4 Cl2 Si



IT 326856-50-2P

(oligomeric, crosslinking agent; crosslinkable polysilane
compns. for plasma-etchable antireflective films for
resists)

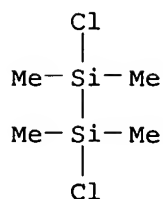
RN 326856-50-2 HCAPLUS

CN Disilane, 1,2-dichloro-1,1,2,2-tetramethyl-, polymer with
1,3-diethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 4342-61-4

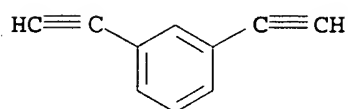
CMF C4 H12 Cl2 Si2



CM 2

CRN 1785-61-1

CMF C10 H6



IC ICM C08L083-16
 ICS C08G077-60; G03F007-11; H01L021-027
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 74
 IT 326856-21-7P 326856-25-1P **326856-31-9P** 326856-35-3P
 326856-39-7P 326856-42-2P 326859-60-3P
 (crosslinkable polysilane **compns.** for plasma-etchable
 antireflective films for resists)
 IT 184886-16-6P 184886-21-3P 184899-03-4P, Dichlorophenylsilane-p-
 diethynylbenzene copolymer **326856-50-2P**
 (oligomeric, crosslinking agent; crosslinkable polysilane
compns. for plasma-etchable antireflective films for
 resists)

L16 ANSWER 36 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:739626 HCAPLUS
 DOCUMENT NUMBER: 133:327657
 TITLE: Positive-working radiation-sensitive
 composition and resist pattern formation using
 same
 INVENTOR(S): Nio, Hiroyuki; Tamura, Kazutaka; Obayashi,
 Gentaro
 PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000292928	A2	20001020	JP 2000-11358	2000 0120
PRIORITY APPLN. INFO.:			JP 1999-25753	A

USHA SHRESTHA EIC 1700 REM 4B28

1999

0203

AB The title radiation-sensitive composition contains (a) a polymer having a structural unit $\text{CH}_2\text{CX}(\text{COA})$ ($\text{X} = \text{halo or CN}$) in which A is an organic group that is decomposed by the action of acid to form an alkali-soluble group and contains ≥ 1 silyl group and (b) an acid generator generating an acid by irradiation with radiation. The composition is coated on a substrate, dried, pattern wise exposed to light, and developed to form a pattern. The composition shows high photosensitivity and provides sub-quarter micron patterns.

IT 302784-12-9P

(radiation resist **composition** containing acrylic polymer with silyl group and acid generator)

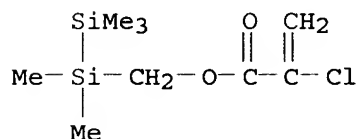
RN 302784-12-9 HCAPLUS

CN 2-Propenoic acid, 2-chloro-, (pentamethyldisilanyl)methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 302784-11-8

CMF C9 H19 Cl O2 Si2



IC ICM G03F007-039

ICS G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 302784-12-9P 302784-14-1P 302784-16-3P 302784-19-6P

302784-21-0P 302784-23-2P

(radiation resist **composition** containing acrylic polymer with silyl group and acid generator)

L16 ANSWER 37 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:551258 HCAPLUS

DOCUMENT NUMBER: 133:185526

TITLE: Resist composition containing silicon-based additive

INVENTOR(S): Lin, Chinghuan; Hughes, Timothy M.; Giordamo, George M.; Katonanne, Ahmad D.; Morrow, Wayne M.; Patel, Niranjana

PATENT ASSIGNEE(S): International Business Machines Corp., USA

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000221686 A2 20000811 JP 2000-13834

2000
0124JP 3202979 B2 20010827
US 6210856 B1 20010403 US 1999-2388231999
0127

PRIORITY APPLN. INFO.:

US 1999-238823

A

1999
0127

AB The title resist composition comprises (a) a Si-containing polymer additive, (b) a Si-free base polymer, (c) a photoacid, and (d) a solvent, wherein (a) and/or (b) contains an acid-sensitive protective group and (a) and (b) become soluble in an aqueous basic solution after the exposure process. This resist composition provided high resolution and etching resistance.

IT 211369-54-9 288248-97-5

(resist composition containing silicon-based additive)

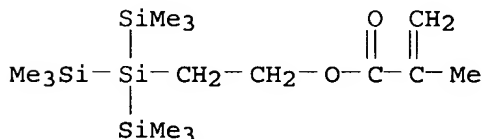
RN 211369-54-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 211369-53-8

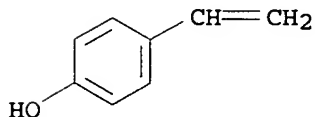
CMF C15 H36 O2 Si4



CM 2

CRN 2628-17-3

CMF C8 H8 O



RN 288248-97-5 HCAPLUS

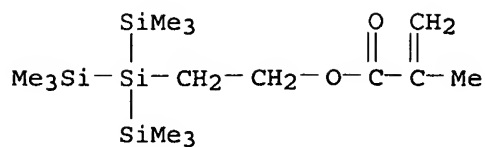
CN 2-Propenoic acid, 2-methyl-, 2-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]ethyl ester, polymer with ethenylbenzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 211369-53-8

CMF C15 H36 O2 Si4

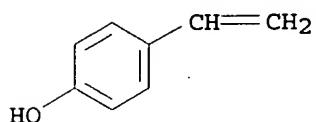
*Check if
Cn/Pl/ly agent?*



CM 2

CRN 2628-17-3

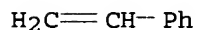
CMF C8 H8 O



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM G03F007-075

ICS G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

IT 211369-54-9 288248-97-5

(resist **composition** containing silicon-based additive)

L16 ANSWER 38 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:144596 HCAPLUS

DOCUMENT NUMBER: 132:182001

TITLE: Water-thinned silicone emulsion compositions containing silatrane derivatives for fiber treatments

INVENTOR(S): Ishikawa, Hiroki; Naganawa, Tsutomu; Ona, Isao; Yoshitake, Makoto

PATENT ASSIGNEE(S): Dow Corning Toray Silicone Company, Ltd., Japan

SOURCE: Eur. Pat. Appl., 21 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 982358	A2	20000301	EP 1999-117062	

1999
0830

EP 982358 A3 20010425

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO

JP 2000072968 A2 20000307 JP 1998-242881

1998
0828

US 6180712 B1 20010130 US 1999-384694

1999
0827

PRIORITY APPLN. INFO.:

JP 1998-242881

A

1998
0828

OTHER SOURCE(S): MARPAT 132:182001

AB The composition having yellowing resistance and good adhesion to fibers, comprises (A) an organopolysiloxane having ≥ 2 silicon-bonded groups selected from hydroxyl or alkoxy groups in each mol.; (B) a microparticulate silica; (C) a curing catalyst; and (D) a silatrane derivative

IT 259182-18-8P, Octamethylcyclotetrasilane-phenyltriethoxysilane copolymer
(water-thinned silicone emulsion **compns.** containing silatrane derivs. for fiber treatments)

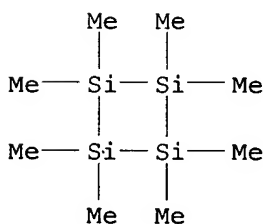
RN 259182-18-8 HCAPLUS

CN Cyclotetrasilane, octamethyl-, polymer with triethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 38041-04-2

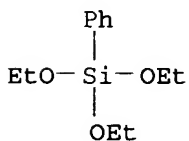
CMF C8 H24 Si4



CM 2

CRN 780-69-8

CMF C12 H20 O3 Si



IC ICM C08K005-54

ICS C08L083-04
CC 40-9 (Textiles and Fibers)
Section cross-reference(s): 37, 39
IT 259182-18-8P, Octamethylcyclotetrasilane-phenyltriethoxysilane copolymer
(water-thinned silicone emulsion compns. containing silatrane derivs. for fiber treatments)

L16 ANSWER 39 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:150929 HCAPLUS
DOCUMENT NUMBER: 126:158328
TITLE: Thermoplastic resin compositions for laser marking
INVENTOR(S): Yamazaki, Natsuki; Ito, Hiroyuki; Motai, Masaaki; Nagai, Hisao
PATENT ASSIGNEE(S): Japan Synthetic Rubber Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08333503	A2	19961217	JP 1995-166793	1995 0608
JP 3221286	B2	20011022	JP 1995-166793	1995 0608

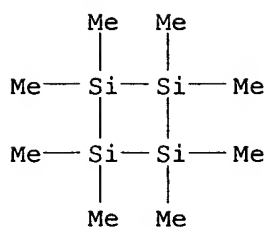
PRIORITY APPLN. INFO.: JP 1995-166793

AB The compns., showing good processability, gloss, impact and fire resistance, contain 100 parts a mixture containing 70-99% (rubber-reinforced) thermoplastic resins comprising (A) copolymers prepared by graft polymerization of aromatic vinyl monomers, cyano vinyl monomers, (meth)acrylic acid esters, and/or maleimides in the presence of rubbers, and/or (B) copolymers of the above monomers, and 1-30% fireproofing agents; and 0.001-5 parts colorants. Thus, 80 parts acrylonitrile-butadiene-styrene graft copolymer, 20 parts tribromophenol-terminated epichlorohydrin-tetrabromobisphenol A oligomer, 1 part a black dye, and other additives were mixed, and injection molded to give test pieces showing Izod impact strength 21 kg-cm/cm, UL-94 flammability rating V-0, good appearance and processability.

IT 186765-38-8P
(rubber-reinforced thermoplastic resin compns. for laser marking)
RN 186765-38-8 HCAPLUS
CN 2-Propenenitrile, polymer with ethenylbenzene, (4-ethenylphenyl)dimethoxymethylsilane and octamethylcyclotetrasilane, graft (9CI) (CA INDEX NAME)

CM 1

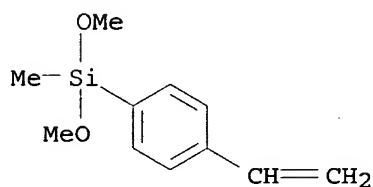
CRN 38041-04-2
CMF C8 H24 Si4



CM 2

CRN 17998-86-6

CMF C11 H16 O2 Si



CM 3

CRN 107-13-1

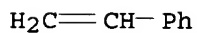
CMF C3 H3 N



CM 4

CRN 100-42-5

CMF C8 H8



IC ICM C08L055-02

ICS C08L055-02; B05D005-00; B05D005-06; B41M005-26; C08L051-08;
H01S003-00; B23K026-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 39, 74

IT 9003-54-7P, Acrylonitrile-styrene copolymer 9011-14-7P, Parapet
GF 25213-88-1P, Acrylonitrile-methyl methacrylate-styrene
copolymer 31621-07-5P, Acrylonitrile-N-phenylmaleimide-styrene
copolymer 106677-58-1P, Acrylonitrile-butadiene-styrene graft
copolymer 186765-38-8P(rubber-reinforced thermoplastic resin compns. for
laser marking)

L16 ANSWER 40 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1996:321240 HCAPLUS
 DOCUMENT NUMBER: 125:46639
 TITLE: Silicon-containing polymer electrically
 conducting composition
 INVENTOR(S): Fukushima, Motoo; Mori, Shigeru
 PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

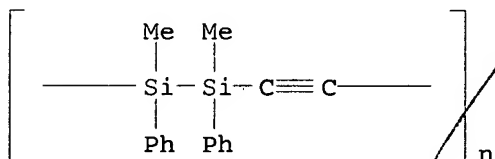
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08069709	A2	19960312	JP 1994-227323	1994 0829
PRIORITY APPLN. INFO.:			JP 1994-227323	1994 0829

AB The composition contains (A) an oxidative compound-doped Si-containing polymer and (B) an ester. The polymer may be a polysilane, a poly(disilanylenephenylene), or a poly(disilanyleneethynylene). The composition shows high elec. conductivity and good flexibility.

IT 123438-61-9, Bis(chloromethylphenylsilyl)acetylene
 homopolymer, sru
 (doped silicon-containing polymer composition containing)

RN 123438-61-9 HCAPLUS

CN Poly[(1,2-dimethyl-1,2-diphenyl-1,2-disilanediy)l-1,2-ethynediyl]
 (9CI) (CA INDEX NAME)



IC ICM H01B001-12

ICS C08L083-16; H01B001-20

CC 76-2 (Electric Phenomena)

Section cross-reference(s): 38

IT 31324-77-3, Dichloromethylphenylsilane homopolymer 76188-55-1,
 Poly(methylphenylsilylene) 97036-68-5, Dichlorodioctylsilane
 homopolymer 98865-30-6, Poly(dioctylsilylene)
 123438-61-9, Bis(chloromethylphenylsilyl)acetylene
 homopolymer, sru 139102-63-9, Bis(chloromethylphenylsilyl)acetyl
 ene homopolymer 147171-62-8, Bis(chloromethylphenylsilyl)benzene
 homopolymer, sru 161436-50-6, Bis(chloromethylphenylsilyl)benzen
 e homopolymer 177933-60-7, Bis(chloromethylphenylsilylacetyl)ben
 zene homopolymer, sru 177966-13-1, Bis(chloromethylphenylsilylac
 etyl)benzene homopolymer
 (doped silicon-containing polymer composition containing)

L16 ANSWER 41 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1995:974180 HCAPLUS
 DOCUMENT NUMBER: 124:103806
 TITLE: Electrically conductive polymer composition
 INVENTOR(S): Fukushima, Motoo; Aramata, Mikio; Mori, Shigeru
 PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

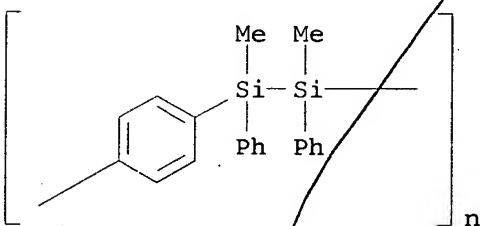
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07254307	A2	19951003	JP 1995-19845	1995 0112
US 5549851	A	19960827	US 1995-377342	1995 0124
PRIORITY APPLN. INFO.:			JP 1994-23135	A 1994 0125

AB The composition contains an oxidizing dopant-doped macromol. compound containing Si, mixed with an amine compound. The macromol. may be polysilanes, poly(disilanylenephénylene), or poly(disilanyleneethynylene). The composition shows excellent shape formability. Thus, I-doped phenylmethylpolysilane mixed with triphenylamine showed $6 + 10^{-5}$ S/cm conductivity

IT 95014-30-5P 111231-05-1P 123438-61-9P
 (doped; conductive compns. containing amines and oxidizing dopant-doped silicon polymers)

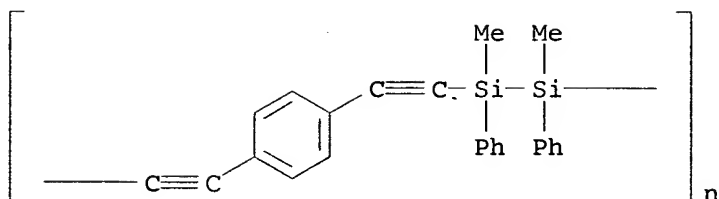
RN 95014-30-5 HCAPLUS

CN Poly[(1,2-dimethyl-1,2-diphenyl-1,2-disilanediy1)-1,4-phenylene] (9CI) (CA INDEX NAME)

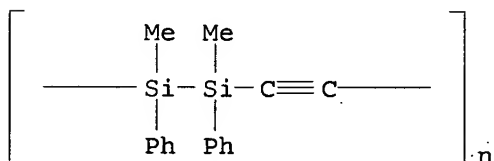


RN 111231-05-1 HCAPLUS

CN Poly[(1,2-dimethyl-1,2-diphenyl-1,2-disilanediy1)-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 123438-61-9 HCAPLUS
 CN Poly[(1,2-dimethyl-1,2-diphenyl-1,2-disilanediy1)-1,2-ethynediyl]
 (9CI) (CA INDEX NAME)



IC ICM H01B001-06
 ICS C08K003-00; C08K005-17; C08L083-16
 CC 76-2 (Electric Phenomena)
 Section cross-reference(s): 38
 IT 31324-77-3P 76188-55-1P, Poly(methylphenylsilylene)
 95014-30-5P 95014-60-1P 97036-68-5P,
 Dichlorodioctylsilane homopolymer 98865-30-6P,
 Poly(dioctylsilylene) 111231-05-1P 123438-61-9P
 139102-63-9P 172943-19-0P
 (doped; conductive **compns.** containing amines and
 oxidizing dopant-doped silicon polymers)

L16 ANSWER 42 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:701657 HCAPLUS

DOCUMENT NUMBER: 121:301657

TITLE: Macrocyclic conjugated polymer compounds with
 good stability and electric conductivity and
 compositions containing the same

INVENTOR(S): Nakajima, Keizo; Sonoda, Nobuo; Tanaka,
 Kazuyoshi; Yamabe, Tokio

PATENT ASSIGNEE(S): Matsushita Electric Ind Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06122769	A2	19940506	JP 1993-153573	1993 0624
JP 2728843	B2	19980318		
US 5357017	A	19941018	US 1993-112977	1993

PRIORITY APPLN. INFO.: JP 1992-230872 A 0830
1992
0831
JP 1993-153573 A
1993
0624

AB The title compds. have a main chain containing conjugated cyclic structure of ≥ 7 atoms, and neighboring cycles are connected by covalent or conjugated bonds. Acetylenedimagnesium dibromide was treated with 1,2,4,5-tetrabromobenzene in the presence of dichlorobipyridylnickel in THF to obtain a polymer forming a cast film with elec. conductivity $4.7 + 10^{-4}$ S/cm as-prepared and 31 S/cm after doped by AsF₅.

IT 159323-88-3P 159323-89-4P 159323-90-7P
159323-92-9P

(macrocyclic conjugated polymer compds. with good stability and elec. conductivity and compns. containing the same)

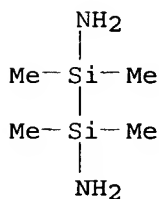
RN 159323-88-3 HCAPLUS

CN Ethenetetracarbonitrile, polymer with 1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 159323-87-2

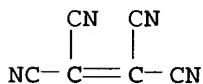
CMF C4 H16 N2 Si2



CM 2

CRN 670-54-2

CMF C6 N4



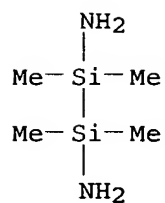
RN 159323-89-4 HCAPLUS

CN 1,2,4,5-Benzenetetracarbonitrile, polymer with 1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 159323-87-2

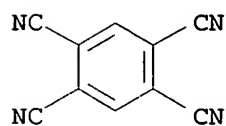
CMF C4 H16 N2 Si2



CM 2

CRN 712-74-3

CMF C10 H2 N4



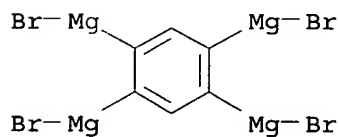
RN 159323-90-7 HCAPLUS

CN Magnesium, tetrabromo-μ4-1,2,4,5-benzenetetrayltetra-, polymer
with 1,2-dichloro-1,1,2,2-tetramethyldisilane (9CI) (CA INDEX
NAME)

CM 1

CRN 159323-85-0

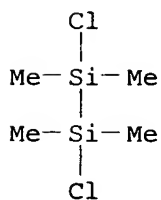
CMF C6 H2 Br4 Mg4



CM 2

CRN 4342-61-4

CMF C4 H12 Cl2 Si2

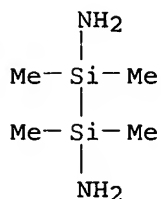


RN 159323-92-9 HCAPLUS

CN 1,2,4,5-Benzenetetracarboxaldehyde, polymer with
1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

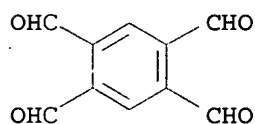
CM 1

CRN 159323-87-2
 CMF C4 H16 N2 Si2



CM 2

CRN 14674-89-6
 CMF C10 H6 O4



IC ICM C08G077-62
 ICS C08L083-16; H01B001-12
 CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 159323-84-9P 159323-86-1P 159323-88-3P
 159323-89-4P 159323-90-7P 159323-91-8P
 159323-92-9P

(macrocyclic conjugated polymer compds. with good stability and elec. conductivity and compns. containing the same)

L16 ANSWER 43 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:560949 HCAPLUS

DOCUMENT NUMBER: 103:160949

TITLE: Plasma polymerization of organosilicon compounds

AUTHOR(S): Inagaki, N.; Kondo, S.; Hirata, M.; Urushibata, H.

CORPORATE SOURCE: Fac. Eng., Shizuoka Univ., Hamamatsu, 432, Japan

SOURCE: Journal of Applied Polymer Science (1985), 30(8), 3385-95

CODEN: JAPNAB; ISSN: 0021-8995

DOCUMENT TYPE: Journal

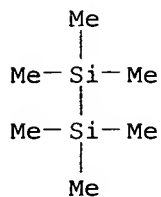
LANGUAGE: English

AB Plasma polymns. of 5 Si compds. having chemical formula $\text{Me}_3\text{SiZSiMe}_3$, Z = none, CH_2 , NH, O, and S, were investigated by elemental anal., IR spectroscopy, and ESCA. The chemical composition of plasma-polymerized polymers was influenced by the Z groups. When Z = S the resultant polymers contained no S; when Z = CH_2 the polymers were rich in C and H atoms. Details in chemical composition were determined by IR and ESCA. Such differences in chemical composition reflected on gas permeability of the plasma films.

IT 61469-35-0
 (composition and permeability of plasma-polymerized)
 RN 61469-35-0 HCAPLUS
 CN Disilane, hexamethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1450-14-2
 CMF C6 H18 Si2



CC 35-7 (Chemistry of Synthetic High Polymers)
 IT 26298-61-3 27495-70-1 61469-35-0 98806-05-4
 98806-06-5
 (composition and permeability of plasma-polymerized)

L16 ANSWER 44 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1978:171711 HCAPLUS
 DOCUMENT NUMBER: 88:171711
 TITLE: Silicon carbide manufacture
 INVENTOR(S): Yajima, Seishi; Hayashi, Jotaro; Ohmori, Mamoru
 PATENT ASSIGNEE(S): Research Institute for Iron, Steel and Other Metals, Tohoku University, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 52112700	A2	19770921	JP 1976-21365	1976 0228
JP 61006088	B4	19860224		
US 4159259	A	19790626	US 1977-770138	1977 0218
GB 1579982	A	19801126	GB 1977-7600	1977 0223
CA 1102483	A1	19810602	CA 1977-272446	1977 0223
SE 7702090	A	19770829	SE 1977-2090	1977 0225
SE 432260	B	19840326		

SE 432260	C	19840705			
FR 2345477	A1	19771021	FR 1977-5651		
				1977	
				0225	
FR 2345477	B1	19820402			
SU 776565	D	19801030	SU 1977-2456703		
				1977	
				0225	
DE 2708635	A1	19770901	DE 1977-2708635		
				1977	
				0228	
DE 2708635	C2	19890302			
DE 2760031	C2	19900517	DE 1977-2760031		
				1977	
				0228	
SE 8201643	A	19820316	SE 1982-1643		
				1982	
				0316	
SE 457263	B	19881212			
SE 457263	C	19890413			
PRIORITY APPLN. INFO.:			JP 1976-21365	A	
				1976	
				0228	
AB	Linear and/or cyclic polycarbosilanes with mol. weight 500-10,000 and intrinsic viscosity 0.01-1.5 were sintered at 800-1500° in a nonoxidizing atmospheric to give amorphous compns. containing >40% SiC. For example, a solution of dodecamethylcyclohexasilane polymer [57495-36-0] (mol. weight 1500, intrinsic viscosity 0.25) in benzene was spun to give fiber which was then heated under N to 1400° at a rate of 300°/h to give SiC fiber in 65% yield.				
IC	C08G077-02				
CC	39-2 (Textiles)				
L16	ANSWER 45 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN				
ACCESSION NUMBER:	1977:453893 HCAPLUS				
DOCUMENT NUMBER:	87:53893				
TITLE:	Poly(organosiloxazanes) with branched and crosslinked structure				
AUTHOR(S):	Andrianov, K. A.; Kotrelev, G. V.; Nogaideli, A. I.; Zhuravleva, I. V.; Lekishvili, N. G.; Tolchinskii, Yu. I.; Pushich, V. I.				
CORPORATE SOURCE:	Inst. Elementoorg. Soedin., Moscow, USSR				
SOURCE:	Vysokomolekulyarnye Soedineniya, Seriya A (1977), 19(3), 451-4				
	CODEN: VYSAAF; ISSN: 0507-5475				
DOCUMENT TYPE:	Journal				
LANGUAGE:	Russian				
AB	A study of the polycondensation of polycyclic organosilazanes with linear and cyclic organosilanolols showed that branched and crosslinked siloxazane polymers were obtained. The thermal polycondensation of pentamethylhexaethyltricyclosilazane (I) and HO(SiMe2O)xH (II, X = 42) proceeded via silazane ring cleavage at Si-NH-Si bonds with formation of SiO bonds and NH2 groups, which condensed with OH groups of other diol mols. to form a crosslinked polymer with gelation occurring after 8.5 h. With shorter chains such as II, X = 9; the process was faster and gelation occurred after 3 h. The thermal stability of the siloxazane polymers depended on their structure and chemical composition . The				

polymer from I and HO(SiMe₂O)₁₀H underwent thermal degradation at 400-80° and thermal oxidative degradation at 240-420°, in comparison to 340-400° and 290-410°, resp., for a hexylsilsesquiazane-tetrahydroxytetraphenylcyclotetrasiloxane copolymer [62962-68-9].

CC 36-3 (Plastics Manufacture and Processing)